# Linking the Customer Purchase Process to Website Development and E-commerce Performance

**Adriana C. Krawczyk**

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# Linking the Customer Purchase Process to Website Development and E-commerce Performance

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Adriana Cecylia Krawczyk

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|---|---|
| Promotor : | Prof. Dr. T. H. A. Bijmolt |
| Copromotor: | Dr. K.R.E. Huizingh |

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| Beoordelingscommissie : | Prof. Dr. J. C. Hoekstra |
| | Prof. Dr. D. Van den Poel |
| | Prof. Dr. P. C. Verhoef |

*Moim Rodzicom – To My Parents*

# Acknowledgements

Groningen, summer 2000 – I came here to sail, and I grasped 'Er gaat niets boven Groningen'[1]! So, I came back again for one year and again for much longer ☺
From being a sailor, via an exchange student, to becoming Ph.D. - how did I make such a path?
First, I was offered a job as a Ph.D. student, and I got an office with the view ☺ …but a lot more was necessary to accomplish this path – the people that supported me along the way.

Primary, I am deeply grateful to my advisors.

Tammo Bijmolt, my promoter, he brought me to finish, and let me believe that I can make it. Tammo has this special quality to inject positive energy into people, which is crucial for a Ph.D. student. I appreciate to have a chance to work with such personality, with impressive knowledge and creativity. I learnt a lot about carrying research, statistical methods; I also learnt that good research project should have a 'grapje' [2].

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When deciding to start my Ph.D. project, an important motive was that I will work with Janny Hoekstra. Indeed, it was a pleasure, and I learnt

[1] Er gaat niets boven Groningen: There is nothing (above) better than Groningen

[2] Grapje: surprise, joke ☺

a lot. In addition, I appreciate very much our great lunches and talks, and that when necessary I could share and discuss different problems.

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„Mama i Tata, dziękuję Wam za bezwarunkowe wsparcie i wiarę we mnie, za wysiłek i determinację żeby mnie wyedukować. Jestem z Was dumna. Mój doktorat to nasze wspólne osiągnięcie."

All in all, doing Ph.D. was a very challenging mission, required high determination and hard work. But most of all it was a fantastic experience, knowledge expanding and self-development period, full of great moments, people, and travels. These years in Groningen are unforgettable, especially, the view on Trompbrug[3].

Adriana Krawczyk

Groningen, April 2008

[3] Trompbrug – swing bridge from 1879, view from my windows ☺

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# 1 Introduction

## 1.1 Importance of e-commerce

Electronic commerce is fundamentally changing the way consumers buy goods and services (Peterson et al., 1997). The low costs of global communication and the possibilities of online interaction and sales promised to overturn established business practices in many areas. E-business has become a critical factor for competitiveness and productivity growth. Companies in all sectors are increasingly using the Internet to do business. In parallel to the continued search for cost-cutting potential, companies are becoming more creative in using information and communication technology (ICT) for new forms of customer service.

The European e-business report 2006/2007 edition (e-Business Market Watch) states that e-business has gained new momentum in the European Union and in other advanced economies of the world. Forrester Research predicts that global online retail sales (business-to-consumer sales including auctions and travel) will grow from 172 billion US Dollars in 2005 to 329 billion US Dollars in 2010, a compound annual growth rate of 14% (The Economist, 2006). During the same period the number of Europeans shopping online will increase from 100 million to 174 million and their average yearly Internet retail spend will grow from around 1,000 Euro to 1,500 Euro, with British web shoppers outspending even their US counterparts. What is more, the number of people with online access is still increasing. The world Internet population will keep hurtling towards 2 billion, a milestone which (according to Computer Industry Almanac) is expected to be reached in 2011. The Economist (2006) reports that much of the growth will come from countries such as India, Brazil, Russia,

Indonesia and China, where the broadband market was expected to reach 79 million subscribers in 2007 – overtaking the USA.

The expansion of the Internet has made it a vital marketing and sales medium for many firms. These new circumstances have forced managers to seek guidelines on how to act effectively in the electronic marketplace (Lederer et al., 2001). Researchers and practitioners try to understand the specificity of e-business. Numerous opportunities in various domains are explored by e-commerce researchers. Wareham et al. (2005) distinguished four main domains of electronic commerce research in the years 1997 – 2003. The domains and their primary topics are: information technology and infrastructure (e.g. security, integration), applications and industries specific themes (e.g. auctions, e-services), business issues (e.g. business-to-consumer, business-to-business), and other social issues (e.g. technological adoption, privacy). Extensive research in such a diverse range of topics has brought many new insights into electronic commerce. Retailers apply new findings and make large improvements and investments in their online businesses but are still struggling to make money online (Dayal et al., 2002). Not all website investments lead to increased performance (Xue et al., 2006), and not much is known about how organizations should evaluate their e-commerce investments (Standing and Chad, 2007). Auger (2005) argued that a closer focus on performance is critical for e-commerce, given the large investments that are often required in designing and maintaining a commercial website. Mahmood et al. (2004) argued that objective evidence is needed that a well-executed e-business initiative will provide benefits to a business. Hence, the search for ways to make the web profitable is still on.

In fact, to sustain the profitability of any business, keeping the customer repurchasing products or services is essential. Thus, e-loyalty is crucial for e-business (Srinivasan et al., 2002; Devaraj et al., 2003). Enduring relationships with customers are the most wanted by e-tailers. Repeat customers are five times more profitable than new customers (Zeithaml, 2000). Companies understand that customer service is critical as it is a primary determinant of patronage and loyalty (Walsh and Godfrey, 2000). Hence, to keep e-clientele, e-

commerce has to be customer focused. In order to develop customer-oriented e-commerce strategies, it is essential for managers to understand what the customers' needs are in the online environment (Loiacono et al., 2007; Nikolaeva and Sriram, 2006; Heinze and Hu, 2006; Chu et al., 2005).

## 1.2 Customer purchase process

Most customers follow more or less the same process when making a purchase and using a product (Engel et al., 1995). The customer purchase process model was developed by Engel et al. (1995). It provides a comprehensive framework for understanding consumer behavior phenomena. The initial stage in any purchase process is need recognition, the state of desire that initiates a decision process. The next step is information processing. This consists of internal search into memory to determine whether enough is known about the available options to allow a choice to be made without further information search. An external search will usually be required when this is not the case. The next step is pre-purchase alternative evaluation, defined as the process by which a choice alternative is evaluated and selected to meet consumer needs. Search and pre-purchase alternative evaluation are strongly connected during decision making. The next stage is purchase. Several issues must be contended with within the purchase process: whether to buy, when to buy, what to buy, where to buy, and how to pay. The next stage is consumption and post-purchase alternative evaluation. Divestment is the final stage in the consumer purchase process model, where the consumer faces the options of outright disposal, recycling, or sale on the second-hand market.

To capture this general process, Ives and Mason (1990) proposed the customer service life cycle (CSLC) model. This model has already been applied in e-commerce, e.g. to support customers at various stages of the purchase process (Saeed et al., 2003 and 2005). The CSLC model (Ives and Learmonth, 1984; Ives and Mason, 1990) covers the stages of requirement, acquisition, ownership and retirement. In the requirement stage customers formulate their needs and explore which products and suppliers could possibly satisfy their

needs. In the acquisition stage the customers obtain a product, order, pay. The ownership stage is concerned with product usage, service, maintenance, and the retirement stage is for divestment.

The customer purchase model has been adapted and applied in e-commerce studies (Butler and Peppard, 1998; Saeed et al., 2002), demonstrating its utility in this field. All the stages can be facilitated online. Advances in technology have produced a vast menu of applications that can be used to enhance customer service offerings (Kolesar and Galbraith, 2000). Nonetheless, despite the ability of e-commerce to support customers' needs, there are still reports about poor e-service offerings such as information overload, poor focus, and inappropriate links (Zeithaml, 2002; Downie, 2003). Consequently, customer support online might function poorly, which might be an obstacle in e-commerce development. Also, it might explain why some websites succeed and others fail.

A growing body of literature documents the importance of the Internet in all phases of the customer buying process, from the search for products, evaluation of alternatives and customer support, to online purchasing (Walsh and Godfrey, 2000; Zeithaml, 2002). However, there is a lack of thorough analysis of how customers' needs in the purchase process could be incorporated in e-commerce practice. Hence, research should further focus on exploring the challenges and consequences of integrating knowledge about the customer purchase process into electronic commerce. There is also a lack of standardized methods of evaluation of the e-commerce customer focus. Therefore, this thesis aims to give guidelines in developing e-commerce strategies derived from the customer purchase process stages and the customers' needs in these stages. The findings can assist in developing customer-oriented websites and e-commerce strategies.

## 1.3 Goal of the thesis

The intent of this thesis is to provide insights into practices that enable companies to use e-commerce in a more customer-focused way. Implementing a

customer-centred focus is very important for contemporary marketing (e.g. Hoekstra et al., 1999; Leeflang and Wittink, 2000). It is important both in offline and online business to better meet the needs of existing customers, and also to attract and retain new customers. Hence, using knowledge on customer needs in the purchase process may provide many essential insights for e-commerce strategy.

The main goal of this thesis is to provide insights into *how online customers' needs structured in the customer purchase process affect website development and e-commerce performance.* E-commerce development should be based on the customer needs in the online setting. Hence, customer behavior theory, in particular the customer purchase process is used in this thesis to reach the stated goal. Customer needs are defined as the needs of customers while visiting websites for search or purchase purposes.

The thesis consists of three studies. Study 1 and study 2 are based on all customer purchase process stages (excluding need recognition and retirement stages). The stages of the customer purchase process serve as a source for deriving website goals in studies 1 and 2. Study 3 looks more in-depth into customer needs in the post-purchase stage. These three studies aim to provide insights into how to achieve greater customer focus into e-commerce practices. The first study looks for website development paths based on customer-oriented website goals. The second and third studies intend to establish links between e-commerce practices and performance measures. In study 2, e-commerce performance is considered at a company level. In study 3, performance is measured at a customer level, namely by means of repurchase intentions. Figure 1.1 illustrates the thesis framework and how the three studies are related.

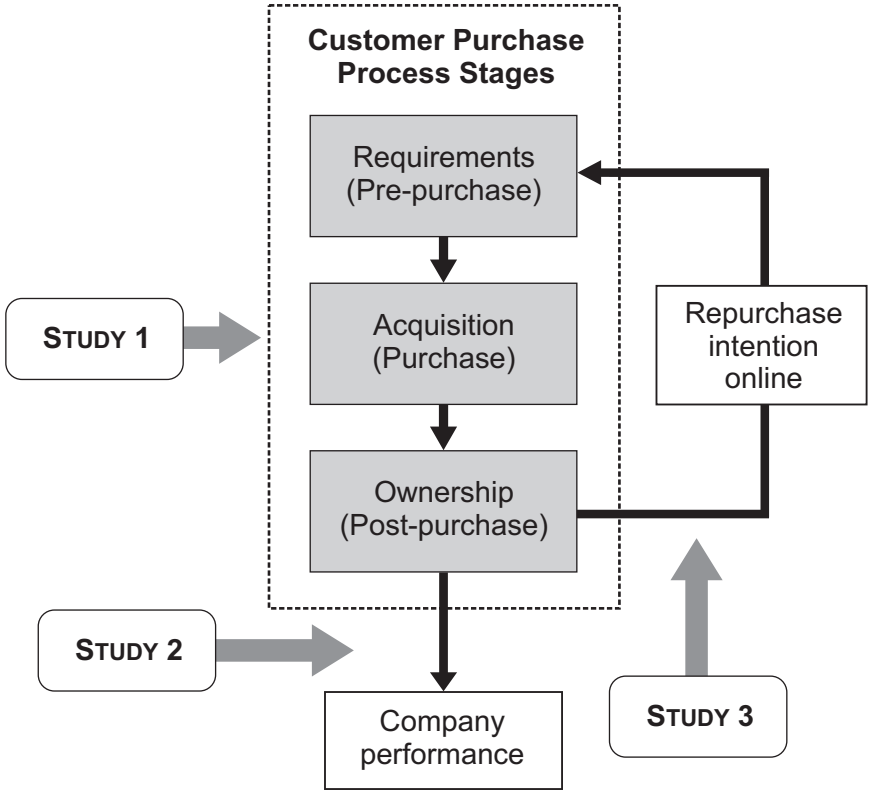



FIGURE 1.1. FRAMEWORK OF THREE STUDIES INCLUDED IN THE THESIS

Across studies we refer to the term: *e-commerce*. This term is defined as follows: *electronic commerce* encompasses delivering information, providing customer service before and after the sale, and purchasing and selling products and services on the Internet or other electronic networks (based on Napier et al., 2001).

### 1.3.1 Research problems

In study 1 the objective *is to determine the stages of website advancement based on the hierarchy of website goals***.** A goal hierarchy implies that different firms

pursue website goals in the same fixed order. Moreover, we explore whether the degree of website advancement differs depending on various firm and industry characteristics. An advancement model can be based on different aspects. Bégin et al. (2001) found three levels of advancement, with firms having informational, promotional or transactional websites. Daniel et al. (2002) found four clusters of firms, which they labeled as developers, communicators, web presence and transactors. At the successive levels, firms perform greater numbers of e-commerce activities. Teo and Pian (2004) proposed a stages model based on different business objectives and distinguished five levels, ranging from email adoption to business transformation. In this study, we examine website advancement stages based upon the support the website provides to customers. Identification of this order has important implications for website development. It may guide firms in their continuous search for improvement of their website, and it may also enhance our understanding of their current Internet use as a phase in an extended process.

Study 2 provides new theoretical and empirical insights into *the relative importance of the informational and transactional functions of company websites by establishing the chain of effects from website features, through informational and transactional success towards overall website and company performance.* By establishing this chain of effects three important contributions are made. First, we are able to determine the relative importance of the informational and transactional functions of a website. In particular, the question is to what extent using the website for informational and/or transactional purposes improves first website success and ultimately company success (Hsu et al., 2006; Teo and Pian, 2004). Second, by linking features to success measures, we identify which website features impact website success. Third, by establishing the chain of effects we link website features (the content of the site) through a number of intermediate performance measures ultimately to the financial performance of a company. By empirically validating these links we provide an important argument for the e-commerce accountability debate. For practitioners, a better understanding of whether and how the transactional and relational functions link with success would allow them to use resources

more effectively and improve the return on their Internet-related investments. The conceptual models of studies 1 and 2 are tested in an empirical setting with data from 380 firms with commercial websites. The sample is obtained from a wide range of industries in the Netherlands.

Next, in study 3 we give insights into online customers' needs in the post-purchase stage of the purchase process. The goal is *to investigate the impact of consumers' complaint behavior and service recovery satisfaction on the intention to repurchase on the Internet channel.* We study whether dissatisfying experiences with online purchases and complaining by consumers impact their intentions to buy on the Internet. The literature on traditional (offline) commerce (e.g. Dunning et al., 2004) indicates that even a dissatisfied customer is willing to repurchase from a retailer if his/her complaints were well handled. Hence, proper service recovery actions can win the consumer back (Holloway and Beatty, 2003), while if customers experience poor recovery efforts they may move to another retailer (Schneider and Bowen, 1999). However, complaint behavior and this so-called service recovery paradox (De Matos et al., 2007) has hardly been addressed in the e-commerce literature. Customers dissatisfied with an online purchase may not only switch to another online retailer, but they may discard the Internet channel for future shopping. Thus, online customers' satisfaction and dissatisfaction is considered important for future online purchases. Hence, adding to knowledge on post-purchase dissatisfaction, complaint behavior and service recovery satisfaction shows the importance and managerial relevance of study 3. The conceptual model of study 3 is empirically tested based on a cross-European (15 countries) survey, which allows for generalization and international comparison of the findings.

## 1.4 Outline of the thesis

This thesis contributes to the existing knowledge by giving insights on how online customers' needs structured in the customer purchase process affect website development and e-commerce performance.

In Chapter 2 (study 1) the advancement stages of customer-oriented websites are derived. In Chapter 3 (study 2) the effect of informational and transactional website functions on overall website success, and market and financial performance is discussed. In Chapter 4 (study 3) the intention of future purchases on the Internet channel depending on customer complaint behavior and service recovery satisfaction is studied. Finally, in Chapter 5 the main conclusions of this thesis are summarized and further avenues of research discussed.

# 2 Stages of Website Advancement: Assessment based on Goals to Support the Customer Purchase Process

*In this study we propose and test a model of the stages through which firm websites become more advanced. The advancement of a website is reflected in the goals firms pursue with it. Since websites are used by customers during their decision process, we derive the website goals from the customer service life cycle. The concept of website advancement stages assumes that the website goals form one or more goal hierarchies. A goal hierarchy implies that a firm that pursues simpler goals may or may not pursue more advanced goals, but that a firm that pursues advanced level goals also pursues the more basic goals. We present the results of an empirical study of 380 firms with a website, sampled from a wide range of industries. Using the generalized partial credit model, we find two separate hierarchies of website development, namely a transactional and a relational dimension, each having three stages. We assess whether firm and industry characteristics are related to the stages of website advancement on both dimensions. The findings of this study offer insights to managers for advancing their websites and building sites with improved customer oriented strategies.*

## 2.1 Introduction

The expansion of the Internet into a vast interactive communication medium of global proportions has made it a vital marketing and sales medium for many firms. These new circumstances have forced managers to seek guidelines on how to act effectively in the electronic marketplace (Lederer et al., 2001). In order to develop customer-oriented e-commerce strategies, it is essential for managers to understand what the customers' needs are in the online environment (Loiacono et al., 2007; Chu et al., 2005; Nikolaeva and Sriram, 2006; Heinze and Hu, 2006). Firms are improving websites on a continuous basis, and managers observe the moves of their competitors in terms of their web presence and strategies (Wu et al., 2003). A firm may start with a simple website that presents only general information about the firm and its products. Over time, as a firm acquires more knowledge about the Internet, improves its technological infrastructure, and its customers gain more experience with incorporating the Internet in their purchase processes, the firm's website could gradually become more advanced (Willcocks et al., 2000; Teo and Pian, 2004). The site may then enable customers to order or to monitor order fulfillment online (tracing & tracking). Hence, it seems logical that firms adopt the Internet stage-wise and that these stages can be described in terms of the online support to customers. Therefore, we assess the stages of website advancement based on its goals to facilitate the customer purchase process.

Our study builds on the notion that firms can use their websites for different purposes. Thus, firms might differ in terms of their level of web adoption. Teo and Pian (2004) stated that Internet technology may be used in different ways by different firms depending on the goals of their websites. This implies that different firms can have different website goals. In this study we focus on organizations that sell products and services to customers and that use websites to support customers in their purchase processes. The objective is to determine stages of website advancement based on the hierarchy of website goals. A goal hierarchy implies that a firm that pursues simpler goals may or may not pursue more advanced goals, but that a firm that pursues advanced

level goals also pursues the more basic goals. Thus, a hierarchy of website goals leads to stages in the advancement of websites, where website advancement for a firm can be derived from the goals being pursued. A goal hierarchy implies that different firms pursue website goals in the same fixed order. Identification of this order has important implications for website development. It may guide firms in their continuous search for improvement of their website, and it may enhance our understanding of their current Internet use as a phase in an extended process. Moreover, we explore whether the degree of website advancement differs depending on various firm and industry characteristics.

We contribute to existing literature in a number of ways. First, we define website goals from a customer's point of view. Often the rationale for a stages process was more technically oriented, e.g. Srinivasan et al. (2002), but we explicitly consider websites as customer support tools. Websites are built for customers, and therefore we derive possible website goals from the customer service life cycle (Ives and Mason, 1990). This framework segments a customer's relationship with a firm into stages similar to the Engel et al. (1995) consumer purchase model, namely into the stages: requirement, acquisition, ownership and retirement. The goals we distinguish are directly linked to the various phases of the customer purchase process.

Second, we adopt an innovative modeling approach, namely a latent class extension of the generalized partial credit model (Muraki, 2006; Vermunt, 2001; Von Davier and Yamamoto, 2004) that combines latent class analysis and item response theory. We assess simultaneously: 1) the stages of website advancement, 2) the hierarchy of website goals and 3) the relation with covariates. This methodology allows us to test whether a single hierarchy exists (as is usually assumed in website stages models), or whether the data is better described by distinguishing multiple hierarchies. Hence, contrary to extant research, we do not a priori determine the number of dimensions of website advancement nor do we fix the number of stages. Our modeling approach, described in section 2.3.3, allows us to test and compare alternative representations, i.e. models with different numbers of dimensions and stages. In particular, following Zhu and Kraemer (2002) and Levy and Powell (2003) we

explore whether website advancement is a multi-dimensional concept by formally testing whether the data on website goals represents one or multiple hierarchies.

The conceptual model is tested in an empirical setting with data from 380 firms with websites that range from being rather basic to very sophisticated. We obtain our sample from a wide range of industries. The use of covariates enables us to test for the impact of various firm and industry characteristics on the stage of website advancement.

The structure of this chapter is as follows. In the next section, we present our conceptual model and review the theoretical perspectives behind our model. Next, in section 2.3, the research design is described, including data collection and data analyses. Subsequently, the results are presented. Finally, in section 2.5, we discuss the implications of our findings.

## 2.2 Conceptual framework

### 2.2.1 Customer value

More than half a century ago Peter Drucker observed that the customer's perception of the value a firm offers is crucial for a firm's performance (Drucker, 1954). Customer value has since then become one of the key concepts in marketing (Woodruff, 1997). It has even been used to define the fundamental objective for businesses. According to Smith and Colgate (2007) firms exist to create value for customers, either other firms or consumers, where it is neither efficient nor effective for buyers to attempt to satisfy their own needs. In order to deliver value firms need to have a clear understanding of exactly what kind of value is desired by customers (Woodruff and Gardial, 1996). In a seminal article, Zeithaml (1988) defined customer value as 'the consumer's overall assessment of the utility of a product based on perceptions of what is received and what is given'. So, customer value is basically what a customer gets versus what a customer gives. The 'get' component refers to the evaluation of all benefits customers receive from purchasing, using and owning a product or service. The 'give' component, Zeithaml (1988) labels this as the sacrifices,

consist of two elements, the perceptions of the monetary price and the nonmonetary price. The latter element refers to all sacrifices customers have to make in terms of nonfinancial resources in order to obtain a product or service. When making purchase decisions customers take into account the time costs, search costs, psychic costs and other efforts related to doing business with a firm. The inclusion of the nonmonetary component is consistent with full price models in economics (Becker, 1965).

Information technology has the capacity to influence all three major components of customer value (the perceptions of benefits, monetary price and nonmonetary price). The increasing digitalization of a wide range of products (from watches to cars) and services (from airlines to libraries) shows the potential of IT to increase the benefits customers receive. IT can influence the monetary price indirectly, by enabling firms to lower their costs by streamlining processes within or between companies, leading to concepts such as just-in-time production, build to order, lean manufacturing, and value chain management. With lowered costs firms can lower their monetary prices while remaining profitable. Finally, IT can be used to reduce the nonmonetary price component. Firms can use IT to make it easier for customers to do business with them by helping customers to find the firm, to select the right product, and to order, pay and receive products and services. Effective IT applications in this arena lower the perceived nonmonetary costs, thereby increasing customer value and making the firm a more attractive business partner, which should ultimately lead to improved firm performance. In this study we focus on the latter potential of IT to increase customer value by lowering the barriers to do business with the firm. More precisely, we focus on the various stages in the customer buying process and study the extent to which companies use websites to support customers in each of the stages. We assume and empirically investigate the existence of distinctive advancement levels of websites

### 2.2.2 Stages of website advancement

Several researchers have studied the adoption of IT-based innovations, see Forman and Goldfarb (2006) for a comprehensive review. Lassila and

Brancheau (1999) studied these processes over time and identified stable periods of utilization that are disturbed by internal and external triggers of change. One major change trigger for firms in any industry is the advent of the Internet (Lyytinen and Rose, 2003). While firms explored the opportunities of the new medium, researchers focused on various aspects of e-commerce adoption. For example, Dehning et al. (2004) studied the value of the announcement of e-commerce initiatives, Chircu and Kauffman (2000) distinguished between potential and realized value of e-commerce. What is more, Lee and Grewal (2004) developed a theoretical framework to comprehend the connection between strategic responses to the Internet and firm performance. Also, Zwass (2003) discussed how e-commerce aspects lead to specific opportunities for organizational innovations. Many studies examined the impact of potential antecedents, such as the perceived strengths and weaknesses of e-commerce (Beatty et al., 2001), organizational factors (Chatterjee et al., 2002), and e-commerce capabilities (Zhu and Kraemer, 2002). Hong and Zhu (2006) provide a more comprehensive overview of e-commerce adoption studies. While in our study some of the antecedents are included as covariates, the main focus is on the extent to and purposes for which firms adopt the Internet.

Many firms have developed website initiatives to strengthen online connections with customers, facilitate transactions and improve customer services (Zhu, 2004). While some firms' online successes are well known, such as Dell and Amazon, other firms are struggling, are lagging behind in technology development, and/or are starting e-commerce activities without deriving benefits (Martinsons and Martinsons, 2002). Because the Internet is still a relatively new phenomenon, managers need tools that guide them in their search for effective web applications and development of e-business strategies (Huizingh, 2002). To derive such guidelines several scholars have proposed stage models in which e-commerce adoption is described as a phenomenon with various levels of advancement. Dichotomous classifications were used by both Lee and Grewal (2004) and Dholakia and Kshetri (2004) when comparing firms with an informational website and a transactional site. A more elaborate model

was proposed by Bégin et al. (2001). They found three levels of advancement, with firms having informational, promotional or transactional websites. Daniel et al. (2002) found four clusters of firms, which they labeled as developers, communicators, web presence, and transactors. At the successive levels, firms perform a higher number of e-commerce activities. Teo and Pian (2004) proposed a stages model based on different business objectives and distinguished between five levels, ranging from email adoption to business transformation. In the empirical part of their study, they used self-reported grouping by showing respondents descriptions of each level. Teo and Pian (2004) profiled each level by the extent to which certain website features are provided on these websites.

In contrast to previous studies, Levy and Powell (2003) distinguished between two underlying drivers of e-commerce advancement, namely business growth and business value of the Internet. With two levels in each dimension, they constructed a 2x2 matrix, containing four different categories of websites, each fitting a different business context. The extremes are labeled 'brochureware' (no business growth expected and low business value of the Internet) and 'business development' (growth expected and high business value of the Internet). Zhu and Kraemer (2002) also considered e-commerce as a multi-dimensional phenomenon. Regarding customers, they made a distinction between the three dimensions: information, transaction and interaction. In this study, we build on this notion that a website can become more advanced in different directions.

Although the various stages models have similarities, there are also clear differences. An important distinction is that the stages can be based on different factors. A stages model can be based on technical issues, business objectives, or the customer support provided. In this study, we examine website advancement stages based upon the support the website provides to customers. Therefore, we derive website goals from the customer purchase process. A customer-oriented firm focuses efforts and resources to satisfy customer needs and places a high priority on continuously finding ways to also deliver customer value via websites. Thus, knowledge of the customer purchase decision process

should drive the design of a website (Huizingh, 2002). By understanding the various phases customers go through when making purchases, firms can determine what kind of support they can or should offer in their websites.

### 2.2.3 Website goals

Most customers follow the same process when making a purchase and using a product (Engel et al., 1995). To capture this general process, Ives and Mason (1990) proposed the customer service life cycle (CSLC) model, and studied how information technology can be used to improve customer service. Saeed et al. (2005) applied the CSLC model to investigate the support of websites in delivering customer service at various stages of the purchase process, while Chircu and Mahajan (2006) used a similar model to study how e-tailers manage transaction costs. The CSLC model covers the stages of requirement, acquisition, ownership and retirement. In the requirement stage customers formulate their needs and explore which products and suppliers could possibly satisfy their needs. In the acquisition stage the customer obtains a product and major activities include ordering, payment and delivery. The ownership stage is concerned with product usage, operation, service, repair and maintenance.

As websites could play a more or less important role throughout the CSLC, we adopt this model to examine website advancement. For the first three CSLC stages, we derived website goals (Table 2.1). The retirement stage is outside the scope of this study, because we focus on customer support in the purchase and usage process. Based on a detailed content analysis of each of the stages i.e. analysis what activities customers perform and what needs do they have in each stage, and a review of the literature on the suitability of the Internet for marketing purposes, the researchers derived website goals for each the stages. For the requirement stage we formulated two goals: improving the firm's image and assisting product selection. It is important that websites convey and support the image of a firm to increase the buyer's propensity to consider the firm as a potential supplier. An overview of available products, detailed information about these products and tools to review the products are helpful instruments in supporting customers in articulating their needs in terms

of desired product attributes and in selecting products to be included in the consideration set. For the acquisition stage we defined four goals: online ordering, online payment, online delivery, and order progress information. These four goals are directly related to the major activities in this stage of ordering, payment and delivery. For the ownership stage we identified two goals: after-sales services and strengthening relationships with customers. After-sales services are intended to support customers when using, repairing or maintaining the product. The other goal, relationship strengthening, recognizes the increased importance of the relational component of business exchanges. In summary, we derived eight website goals based on the three stages of the customer service lifecycle (Table 2.1). Next, we conceptualize the degree of website advancement as the degree to which these website goals are pursued by a firm. For example, in the initial stage of website advancement, a firm has to focus on basic goals, whereas (virtually) all website goals are pursued by firms in the most advanced stage of website development.

TABLE 2.1. CUSTOMER SERVICE LIFE CYCLE STAGES AND CORRESPONDING WEBSITE GOALS

| Customer service life cycle stages | Website goals |
|---|---|
| Requirement | 1. Image building *(Image)*<br>2. Assisting customers in selecting products *(Product selection)* |
| Acquisition | 3. Online ordering *(Ordering)*<br>4. Online payment *(Payment)*<br>5. Online delivery (*Delivery*)<br>6. Information about order progress *(Order progress)* |
| Ownership | 7. After-sales services *(After-sales)*<br>8. Strengthening relationships with customers *(Relationships)* |

### 2.2.4 Firm and industry characteristics

We explore whether the degree of website advancement varies depending on firm and industry characteristics. Six covariates that can potentially influence website advancement are included in our conceptual framework. First, firm size could be a relevant characteristic because large firms have cost advantages and specialized, expensive applications are needed to progress to more advanced stages of website development (Dholakia and Kshetri, 2004; Teo and Pian, 2004; Sorescu et al., 2003, Chandy and Tellis, 2000). Second, technological opportunism (Srinivasan et al., 2002) signals how aggressively a firm pursues new technological opportunities. A higher degree of technological opportunism is likely to be related to having a more advanced website. Third, the presence of

a marketing department has been found to be relevant for the use of IT for marketing purposes (e.g. Wierenga et al., 1994). Hence, we expect that firms with a marketing department to be at higher stages of website advancement. Fourth, as websites tend to become more advanced over time we expect a positive effect of website age on website advancement. However, early Internet adopters may have encountered difficulties due to the newness of the technology (Srinivasan et al., 2004), whereas the early followers or firms that have developed their website more recently can learn from pioneers' mistakes (Sungwook et al., 2006). In these cases website age and website advancement may be negatively correlated. Finally, we included two industry characteristics that describe the external context in which the firm operates. These are the type of industry (high versus low information intensive) and customer category (whether a firm operates in a business-to-business or business-to-consumer market).

## 2.3 Study design

### 2.3.1 Sample

In order to test the conceptual framework, we used a mail survey to collect data from Dutch firms that have a website and have at least 50 employees. Using commercially available contact information, provided by the Dutch database firm Cendris, 1600 firms were sampled. All firms have more than fifty employees and they operate in a wide range of industries. Our respondents were mainly CEOs and marketing managers. The questionnaire was pre-tested by three marketing managers. Based on the feedback, some items in the questionnaire were re-worded. Three weeks after distributing the first mailing, a reminder was sent to non-respondents. Both mailings included a personalized cover letter, a self-administered questionnaire, and a postage-paid envelope. To stimulate participation in the study we organized a lottery in which the survey respondents could win a free market research project. This procedure resulted in 380 usable questionnaires, giving an effective response rate of 24 percent.

### 2.3.2 Measurements

The eight website goals were measured by asking the respondents how important each of these goals is for their website (on a five point scale ranging from 1, is not important at all, to 5, is very important). This yielded eight polytomous response variables (Appendix IA).

We measured several firm-level and industry-level variables. The following four firm-level covariates were measured: firm size, technological opportunism, marketing department, and website age. Firm size was indicated by the number of employees (Dholakia and Kshetri, 2004; Chandy and Tellis, 2000); small firms (less than 100 employees), medium firms (100 to 250 employees), and large firms (more than 250 employees). The level of technological opportunism is measured using the eight-item scale of Srinivasan et al. (2002) (see Appendix IB). The Cronbach's alpha for this construct is 0.86, indicating a high reliability (it exceeds Nunnally's (1978) 0.70 guideline). The presence of a separate marketing department was indicated stated by the respondents and is treated as a dummy variable ("yes" is coded as 1 and "no" as 0). Website age is measured as the numbers of years since its first introduction. The following two industry-level covariates were measured: information intensity of the industry and business-to-business versus business-to-consumer markets. The industry categories were categorized into two sub-groups of high information-intensive industries (Wholesale and Retail Trade; Restaurants and Hotels; Transport, Storage and Communication; Financial Services; Rental Services; and Commercial Services) and low information-intensive industries (Agriculture, Hunting, Forestry; Manufacturing; Information Technology Hardware Industry; Construction). Then these two sub-groups are treated as a dummy variable (0 for high information intensives and 1 for low information intensives industries). The market the firm operates in is measured by the percentage of the total revenues generated by consumer products in contrast to business-to-business products. If it is predominantly business-to-business (more than 50 %), then it is coded as 0. When it is primarily business-to-consumer, it is coded as 1.

TABLE 2.2. PROFILE OF THE FIRMS AND WEBSITES IN THE SAMPLE

| | | |
|---|---|---|
| **Firm size** | Small | 41 % |
| | Medium | 33 % |
| | Large | 26 % |
| **Market share** | Market leader | 29 % |
| | One of the larger firms | 59 % |
| | One of the small firms | 12 % |
| **Technological opportunism** | =< 20 | 27 % |
| | 21 – 25 | 39 % |
| | 26 – 30 | 26 % |
| | 31 – 35 | 9 % |
| **Marketing department** | Yes | 63 % |
| | No | 37 % |
| **Website age** | < 1 - 2 years | 19 % |
| | 3 – 5 years | 40 % |
| | 6 – 7 years | 25 % |
| | 8 – 10 years | 14 % |
| | >= 11 | 1 % |
| **Industry** | High information intensive | 46 % |
| | Low information intensive | 54 % |
| **B2B/B2C market** | B2B | 80 % |
| | B2C | 20 % |

Table 2.2 presents descriptive statistics of our sample, and Table 2.3 presents the website goals frequencies. First, we convey the overall percentage of firms in the sample pursuing each website goal (i.e. rated the goal as important or very important). The goal image building is pursued by 88 percent of firms and its mean importance is 4.3 on the Likert scale from 1 to 5. On the contrary, the goal online payment is pursued by only 6 percent of the firms in our sample. Also, its mean importance is fairly low at 1.5.

TABLE 2.3. THE WEBSITE GOALS FREQUENCIES

| Website goal | Importance ratings | | |
|---|---|---|---|
| | % larger than 3 | Mean | Standard deviation |
| Image | .88 | 4.3 | .74 |
| Product selection | .66 | 3.8 | 1.11 |
| Ordering | .27 | 2.5 | 1.43 |
| Payment | .06 | 1.49 | .93 |
| Delivery | .34 | 2.53 | 1.61 |
| Order progress | .09 | 1.67 | 1.08 |
| After-sales | .20 | 2.27 | 1.26 |
| Relationships | .59 | 3.54 | 1.14 |

### 2.3.3 Model

The purpose of our analysis is to classify firms into stages of website advancement on the basis of the website goals they pursue. Furthermore, we intend to assess whether one or more hierarchies underlie the website goals. To achieve this latter objective, we apply the Generalized Partial Credit Model (GPCM; Muraki, 1992) which is a polytomous Item Response Theory model (IRT; Embretson and Reise, 2000). GPCM is appropriate for analyzing attitude items where subjects responded to statements on a multi-point scale. In particular, we apply a latent class extension of GPCM (Vermunt, 2001; Von Davier and Yamamoto, 2004), as available in Latent GOLD 4.0 (Vermunt and Magidson, 2005a; Vermunt and Magidson, 2005b). Latent class models assume that the observed cases belong to one of multiple groups. These groups form a discrete latent factor, because the classification of firms into groups is not actually observed. Hence, the combination of GPCM and latent class models (LC-GPCM) exactly matches our research objectives.

For each firm ($i$ = 1,.., I), we obtained measures of the extent to which each website goal ($j$ = 1,.., 8) is important to that firm. This yielded eight

polytomous variables $x_{ij}$ with ordered categories ($c$ = 1,.., C). In our empirical study, C equals 5, and the scale ranges from $c$=1: very unimportant to $c$=5: very important. As in the traditional latent class model, we assume that each firm belongs to one of several clusters or groups. The groups differ in their scores on the latent factor underlying the website goal responses and correspond to the stages of website advancement in our conceptual framework. The probability of firm $i$ responding in a particular category D for goal $j$, given that the firm belongs to latent class or stage S, is modeled as:

$$P\left(x_{ij} = D \middle| \theta_S, \alpha_j, \delta_{jc}\right) = \frac{\exp\left[\sum_{c=1}^{D} \alpha_j \left(\theta_S - \delta_{jc}\right)\right]}{\sum_{r=1}^{C} \exp\left[\sum_{c=1}^{r} \alpha_j \left(\theta_S - \delta_{jc}\right)\right]}. \qquad (1)$$

The discrete latent factor is presented by the parameters $\theta_S$, which reflect the degree of website advancement for firms belonging to stage S. This unobserved construct is measured through a set of observed variables also called indicators. In our study, the website goal importance ratings are the indicators for the latent factor website advancement. Larger values for the latent factor parameter result in higher probabilities of observing high responses for the website goals ($x_{ij}$).

For each website goal, $j$, the following parameters are estimated: $\alpha_j$ and $\delta_{jc}$. The slope parameter $\alpha_j$ is often referred to as discrimination parameter and reflects the degree to which the categorical responses for website goal $j$ vary with changes in the discrete factor. That means, if this parameter is large for a website goal, importance of that goal differs strongly between latent classes because groups of firms differ in website advancement. The item-category intersection parameters $\delta_{jc}$ are often referred to as difficulty parameters. These parameters are specific for each category of the response scale and reflect the points on the latent factor where one category becomes more likely than the preceding category. In addition, we report factor loadings, which correspond to the correlation between the importance rating of a website goal and the latent factor of website advancement. As in traditional factor analysis, these loadings can be used to interpret and label the latent factors.

Importantly, the model should allow for more than one latent factor of website advancement underlying the importance ratings of website goals. Therefore, we apply the multidimensional IRT methodology (Kelderman, 1997) to extend the LC-GPCM. Now, the probability of firm *i* responding in a particular category C for goal *j*, given that the firm belongs to stages $S_q$ of the discrete latent factors q = 1,.., Q is modeled as:

$$P\left(x_{ij} = C \middle| \theta_{S\,q}, \alpha_{jq}, \delta_{jcq}\right) = \frac{\exp\left[\sum_{q=1}^{Q} \sum_{c=1}^{D} \alpha_{jq}\left(\theta_{S_q} - \delta_{jcq}\right)\right]}{\sum_{r=1}^{C} \exp\left[\sum_{q=1}^{Q} \sum_{c=1}^{r} \alpha_{jq}\left(\theta_{S_q} - \delta_{jcq}\right)\right]}. \qquad (2)$$

Hence, each discrete latent factor *q* is presented by the parameters $\theta_{S\,q}$, which reflect the degree of website advancement for firms belonging to stage $S_q$ for that factor. Furthermore, all slope and item-category intersection parameters are allowed to vary between latent factors.

The LC-GPCM model in equation (2) requires the researcher to specify the number of discrete latent factors and the number of levels or groups for each factor. As model fit improves with increases in the number of factors and/or the number of levels, model selection should be based on fit relative to model parsimony (Vermunt and Magidson, 2005b). We adopt decision criteria to minimize the Bayesian Information Criteria (BIC) which penalizes the likelihood of the model for the number of parameters, because it has been shown to perform relatively well for latent class modeling (Andrews and Currim, 2003).

## 2.4 Results

### 2.4.1 Model selection

To determine the optimal model we estimated a large number of models with varying numbers of discrete factors and levels. In particular, we estimated models with up to three discrete dimensions and with up to five levels per

dimension. According to the lowest BIC decision rule (Andrews and Currim, 2003), the preferred model contains two discrete factors with three levels in each factor. Therefore, the results of this model will be presented in the next subsections.

### 2.4.2 Dimensions of website advancement

Table 2.4 shows the percentages of firms having websites in each advancement level in both discrete factors. In the first discrete factor, most of the websites are basic or moderately advanced; only 19 percent of the websites represent high advancement. Concerning the second discrete factor, the largest group of websites represents medium advancement.

TABLE 2.4. THE PERCENTAGE OF WEBSITES IN 3 LEVELS OF 2 DISCRETE FACTORS

| Website advancement level | Discrete factor 1 | Discrete factor 2 |
|---|---|---|
| Level 1 | 42 % | 17 % |
| Level 2 | 39 % | 67 % |
| Level 3 | 19 % | 16 % |

Next, we identify which website goals significantly relate to each discrete factor (Table 2.5). In particular, we examine which goals have significant alphas. If the alpha (the slope parameter) is significant it indicates the strength of the effect of the discrete factor on the website goal. In addition, the factor loading is an important indicator of the strength of the relation between a website goal and a particular discrete factor. Only if these two indicators, significance and substantiality, are satisfactory, will we utilize the goal for interpretation of that discrete factor.

TABLE 2.5. MODEL RESULTS: WEBSITE GOALS DISCRIMINATION, WALD STATISTICS AND LOADINGS PER DISCRETE FACTOR

| Website goal | Discrete factor 1: Transactional | | | Discrete factor 2: Relational | | |
|---|---|---|---|---|---|---|
| | Slope parameter $\alpha_j$ | Wald statistic | Loadings | Slope parameter $\alpha_j$ | Wald statistic | Loadings |
| Image building | -0.03 | 0.02 | -0.009 | 0.89* | 4.74 | 0.201 |
| Product Selection | 1.22* | 34.24 | 0.401 | 0.38 | 2.31 | 0.108 |
| Ordering | 6.09* | 25.35 | 0.882 | 0.95 | 1.94 | 0.091 |
| Payment | 3.18* | 45.35 | 0.605 | 1.35* | 10.71 | 0.194 |
| Delivery | 1.74* | 33.34 | 0.667 | 0.44 | 2.60 | 0.116 |
| Order progress information | 2.30* | 44.72 | 0.529 | 2.21* | 29.64 | 0.377 |
| After-sales service | 2.33* | 7.77 | 0.398 | 5.29* | 10.28 | 0.695 |
| Strengthening relationships | 0.59* | 7.60 | 0.167 | 2.31* | 12.55 | 0.551 |

** Significant at $p \leq 0.01$*

In the first discrete factor the goal ordering has the highest alpha, followed by payment, order progress, after-sales service, delivery, selection process, and strengthening relationships. The p-value of the goal image is larger than 0.10, thus this goal is not significantly related to this factor. Although the alpha for the goal strengthening relationships is significant, its loading on the first factor is quite low (< .2), implying that the relation with the first factor is weak. Therefore, interpretation of the first discrete factor is based on the following goals, in order of relevance: ordering, payment, order progress, after-sales service, delivery, and product selection. Based on these goals we label this discrete factor as the *transactional* dimension.

In the second discrete factor the goal after-sales service has the highest alpha, followed by strengthening relationships, order progress, payment, and image building. The following goals are not significant for this factor: delivery, ordering, and product selection. Furthermore, of the significant goals, payment has a relatively low loading (< .2) and will therefore be discarded. To conclude, the second discrete factor covers four website goals: after-sales service, relationships strengthening, order progress information, and image building. Based on these goals we label this discrete factor as the *relational* dimension.

The most appropriate model (with the lowest BIC) has three levels for both dimensions (see Table 2.6). To facilitate interpretation of the website advancement stages defined by these two discrete factors, Table 2.7 displays the average importance ratings per website goal for each level of each discrete factor. The means are reported only for the website goals relevant for the particular discrete factor. As expected, the mean importance ratings of the website goals increase substantially for those goals relevant for the specific discrete factor. In the next section, we discuss the interpretation of the results in more details.

TABLE 2.6. OVERVIEW OF BIC STATISTICS

| Number of dimensions | Number of levels | BIC Chi-squared | BIC Log-likelihood |
|---|---|---|---|
| 1 dimension | 2 | 4829 | 7100 |
| | 3 | 4771 | 7042 |
| | 4 | 4766 | 7037 |
| | 5 | 4760 | 7032 |
| 2 dimensions | 2 x 2 | 4798 | 7069 |
| | 2 x 3 | 4755 | 7026 |
| | 2 x 4 | 4746 | 7017 |
| | 3 x 3 | 4742 | 7014 |
| | 3 x 4 | 4744 | 7015 |
| | 4 x 4 | 4748 | 7019 |
| 3 dimensions | 2 x 2 x 2 | 4771 | 7042 |
| | 3 x 2 x 3 | 4756 | 7027 |
| | 3 x 3 x 3 | 4748 | 7019 |

TABLE 2.7. THE WEBSITE GOALS MEAN IMPORTANCE FOR LEVELS IN DISCRETE FACTORS 1 AND 2

| Website goal | Discrete Factor 1: Transactional | | | Discrete Factor 2: Relational | | |
|---|---|---|---|---|---|---|
| | *level 1* | *level 2* | *level 3* | *level 1* | *level 2* | *level 3* |
| Image building | x | x | x | 4.03 | 4.31 | 4.52 |
| Product selection | 3.31 | 4.00 | 4.44 | x | x | x |
| Ordering | 1.25 | 2.78 | 4.63 | x | x | x |
| Payment | 1.06 | 1.36 | 2.71 | x | x | x |
| Delivery | 1.37 | 2.62 | 4.18 | x | x | x |
| Order progress | 1.18 | 1.66 | 2.76 | 1.18 | 1.60 | 2.41 |
| After-sales service | 1.81 | 2.39 | 3.03 | 1.13 | 2.12 | 3.86 |
| Strengthening relationships | x | x | x | 2.40 | 3.63 | 4.39 |

x - not relevant for this specific factor

### 2.4.3 Hierarchies of website goals

The transactional and relational dimensions are presented in Figures 2.1 and 2.2, respectively. For each dimension, we present only those website goals that are relevant for that dimension, based on the alpha parameters and factor loadings (Table 2.5), and each website goal is presented by its mean importance rating per advancement stage (Table 2.7). The vertical axis in Figures 2.1 and 2.2 represents website goal importance, the horizontal axis shows website goals. The figures depict the three levels of website advancement in the transactional, respectively relational dimension. Hence, both figures highlight the extent to which the various website goals are pursued in each website advancement stage. Then, knowing the goals pursued in each level, we derive the order in which website goals are pursued simply, by placing the goals from level 1, as initial goals, followed by the goals pursued in level two and then three. As the end result, we obtain hierarchies of website goals for the transactional and relational dimensions.

In the transactional dimension (Figure 2.1), the goal product selection is already important for websites in level 1. Then, in level 2, the delivery, ordering, and after-sales service goals also become relatively important. Finally, in level 3, order progress and payment goals are pursued. Furthermore, next to product selection, the goals of ordering and delivery have become very important goals. Apparently, at the highest stage of the transactional dimension, these three goals are considered crucial aspects of the website. The order of the goals pursued within the same level is derived from their mean importance. Specifically, the goal with a higher mean importance is positioned before the goal with a lower mean importance. Thus, in level 2, the first website goal is ordering (mean importance 2.78) then delivery (2.62). In level 3, first is after-sales (3.03) followed by order progress (2.76) and payment (2.71). To conclude, the website goal hierarchy for the transactional dimension is as follows: product selection, ordering, delivery, after-sales, order progress and payment.

In the relational dimension (Figure 2.2), the goal image building is the most important goal in level 1. Then, in the second level, the relationship strengthening goal becomes important. Finally, in level 3, the goals after-sales

service and order progress are also pursued. Based on the mean importance scores, the first additional goal in level 3 is after-sales service, then order progress. To conclude, the website goal hierarchy for the relational dimension is as follows: image building, strengthening relationships, after-sales service, and order progress.

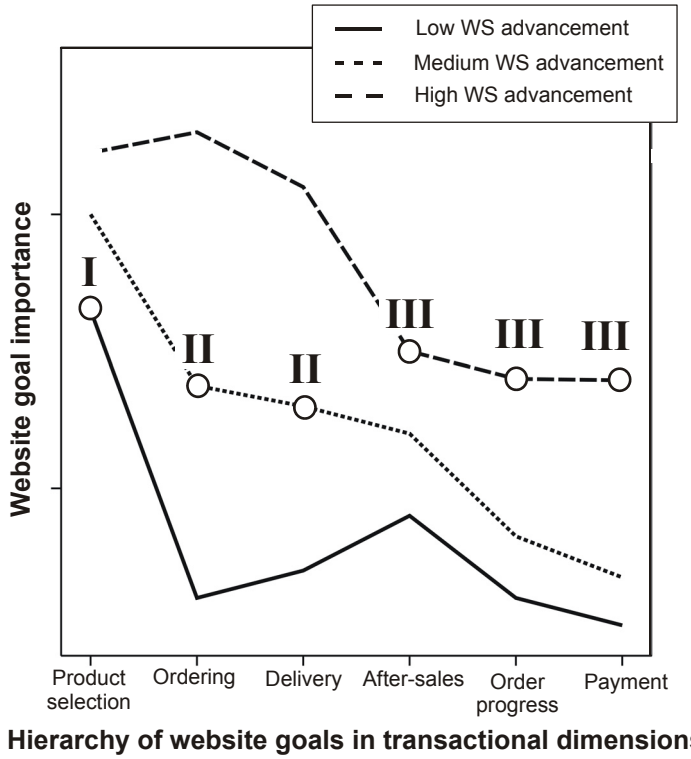



FIGURE 2.1. HIERARCHY OF WEBSITE GOALS IN TRANSACTIONAL DIMENSION

The two hierarchies assume that websites that have realized simpler goals may or may not pursue more advanced goals, but that all websites at the advanced level also pursue the more basic goals.

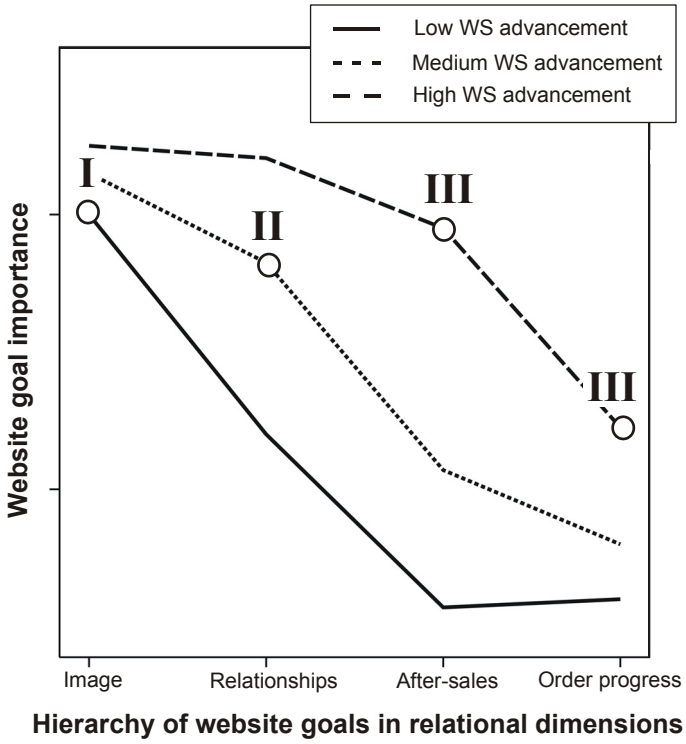



FIGURE 2.2. HIERARCHY OF WEBSITE GOALS IN RELATIONAL DIMENSION

### 2.4.4 Effects of firm and industry characteristics

Furthermore, we are interested in whether the probability of reaching certain stages in the website goal hierarchies is influenced by firm and industry characteristics. The effects of covariates on website advancement in the transactional and relational dimensions are reported in Table 2.8.

TABLE 2.8. COVARIATES EFFECTS FOR TRANSACTIONAL AND RELATIONAL DIMENSIONS

| Covariate | Transactional dimension | | | Relational dimension | | |
|---|---|---|---|---|---|---|
| | Covariate effect | Wald statistic | p-value | Covariate effect | Wald statistic | p-value |
| Firm size | 0.47 | 1.88 | 0.39 | 0.56 | 0.93 | 0.63 |
| Technological opportunism | -0.03 | 0.01 | 0.91 | 0.53 | 2.13 | 0.14 |
| Marketing department | 0.88 | 5.42 | 0.02 | 0.88 | 3.27 | 0.07 |
| Website age | -0.01 | 0.04 | 0.84 | 0.06 | 0.45 | 0.50 |
| Industry | -1.73 | 19.91 | < 0.01 | 1.08 | 4.27 | 0.04 |
| B2B /B2C market | 0.81 | 3.76 | 0.05 | -0.64 | 1.22 | 0.27 |

Having a separate marketing department has a positive impact on both dimensions, with the effect on the relational dimension being significant at $p \leq 0.10$ only. Firms with a separate marketing department are expected to have a higher advancement of websites both in the transactional and relational dimensions. The informational intensity of the industry has significant effects of different directions in the two dimensions. More advanced websites on the transactional dimension hierarchy are expected for the firms operating in high information intensives industries. On the other hand, firms operating in low information intensive industries are more likely to have websites highly positioned on the relational dimension. Operating in B2B versus B2C markets has significant and positive effect only in the transactional dimension. Therefore, firms operating in B2C markets are expected to be more advanced in the transactional dimension. Firm size, technological opportunism, website age does not have statistically significant effects (at $p \leq 0.05$) in either dimension. One might expect these covariates to have effects, but in our study they do not have a significant influence on website advancement.

## 2.5 Conclusion and discussion

By means of this study, we extend prior research in three ways. First, we formulate website goals based on the customer purchase process. In this way our findings can assist in developing customer-oriented website strategies. Second, we test explicitly for the presence of one or more hierarchies in pursuing website goals. Our findings show that website advancement is a two-dimensional concept. Contrary to some other studies (e.g. Wu and Lee, 2005) which discuss Internet only as a communication channel, we show the complete picture of Internet usage for marketing purposes. We demonstrate possible website development in two dimensions: transactional and relational. Third, we investigate which firm characteristics influence the level of website advancement. Thus, we examine not only the sequence and probability of pursuing website goals, but also factors that may influence the advancement of websites, among others a separate marketing department and the type of industry.

Summarizing our findings, we have two separate website goals hierarchies. The website goals in the transactional dimension appear in the following sequence: product selection, ordering, delivery, after-sales, order progress, and payment. In the relational dimension the order of website goals is: image, relationships, after-sales, and order progress. These hierarchies imply that firms scoring low on a dimension pursue only certain basic goals. At the higher advancement level new goals come into play and the importance of the previously pursued goals gets higher. For example, in the relational hierarchy, image building is pursued by almost all firms. Strengthening relationships becomes important at the medium advancement level, and at the high advancement level the importance of this goal becomes even higher. Moreover, the most advanced (relational) website goals, after-sales service and order progress, become important.

Why do firms pursue website goals in the orders discussed above? An explanation could be related to the difficulties when introducing the features needed to pursue the website goals. Certain website goals are easy to adopt, whereas others require substantial resources and organizational restructuring.

For example, online delivery calls for substantial systems redesign and integration of business activities, personnel training and significant commitment from management (Wu et al., 2003). Furthermore, implementing certain website goals, such as payment online, order-progress and online delivery require technologically complex systems that link multiple parts of the business unit to each other and with outside units. These initiatives require support from various subunits within the business division and from customers and suppliers (Wu et al., 2003). Hence, the extent to which a specific goal is pursued by a firm depends on a firm's ability to update legacy systems, and to deal with the technological and organizational complexities. At the lower levels of the goal hierarchy the website can be more of a stand alone information tool, where at the higher level it has to be more closely integrated to the overall firm activities. For example, it could be that the highest phase on the transactional hierarchy is reached when firms fully integrate the Internet into the firm business activities.

The two hierarchies we derive based on website goals are in line with the previous research using different approaches. Daniel et al. (2002) identified four sequential stages of e-commerce adoption, where firms at a specific stage undertake all activities of the previous stages and some additional. The third stage adds receiving orders online, as it is our medium level of the transactional dimension. Firms at the most advanced stage add after-sales service and payment capabilities, which is again similar to our findings. Daniel et al. (2002) suggested that the companies in the third stage were about to develop transactional capabilities in addition to the information-providing. Lee and Grewal (2004) discussed adopting the Internet as communication channel and as sales channel. Hence, they also perceive the communication channel as an initial step before adopting a sales channel. The channels are recognized as consecutive steps of development stages. Our study deviates from these and other studies by specifying two separate dimensions of website development. Our empirical findings indicate that website advancement should be treated as two related but different sequences of e-commerce adoption: transactional and relational aspects.

The first two levels of website advancement differ considerably between both dimensions, as different sets of goals are considered to be important. Thus, both the transactional and relational dimension each has its own set of basic website goals. One the other hand, we find the same two goals occurring at the highest advancement levels of the transactional and the relational dimensions, namely after-sales service and order progress. Both goals are clearly related to transactions but also contain relational aspects. To enhance relationship building and improve communication with customers, after-sales service is crucial (e.g. Wu and Lee, 2005). Similarly, online order tracing and tracking is an important aspect of the transaction process, which also enhances communication with the customers. Hence, when it comes to the highest levels of website advancement, the same goals are pursued (after-sales service and order progress), and the stage processes appear to converge into a stage of superior online customer-orientation.

An important observation of our study is that only a few firms currently have highly advanced websites in both dimensions. No more than three percent of the firms have highly advanced websites in both the transactional dimension and the relational dimension. The largest group of 26 percent of the firms is represented as medium in the two website advancement dimensions, and only seven percent score low in both dimensions. Thus, although most companies have been using the Internet for almost a decade now, there still is considerable potential for increasing website advancement in the transactional dimension and/or in the relational dimension.

This study contains some useful findings from the managerial perspective. First, by showing how website goals can be derived from the various stages of the customer purchase process we offer managers a tool to support the development of customer oriented websites. Managers can use the model to review their current website: it shows them the major strengths and weaknesses of their website in terms of supporting customers in their decision process. Second, our results allow a firm to determine the current status of advancement of its website which is crucial for further designing an Internet strategy. Insight in the current status will highlight opportunities for

improvement but may also focus managers' attention to certain aspects of their site where the site scores much higher than expected given the current level of advancement. It could be possible that the site is too advanced on these aspects. Third, the results of this study suggest which goals could be pursued given the current stage of a firm's website. Business practice provides many examples of company websites that went through a change process, for example by implementing transactional components (TWICE, 2000). Alternative strategies can be derived from our goal hierarchies depending on whether one intends to improve on the transactional or the relational dimension, or perhaps on both simultaneously. For example, if a company considers enabling online transactions as crucial and aims for the highest level of the transaction dimension, then the corresponding goals need to be pursued and the website has to be designed accordingly. Thus, the results of this study may serve as a benchmark and as a tool for screening, evaluating, designing, and improving the website.

We note certain limitations of this study and suggest some directions for further research. A few limitations are related to the focus of the study and the way data were collected. This study focused on how companies use websites to support customers in their purchase processes. Since no scales were available to capture the extent firms pursue various website goals we developed a set of one item measures. Further research could focus on developing richer measurements to include more relevant aspects related to each of the goals. In this study we included a supplier's perspective and focused on one channel, the Internet. Likely future extensions are to study the same issue from a customer perspective (Thorkzadeh and Dhillon, 2002) and to include other channels as well (Bendloy et al., 2005; Dholakia et al., 2005). Next, this study reports results based on data collected in a single country (the Netherlands). Since both Internet use and broadband access in the Netherlands are among the highest in the world, it would be interesting to explore whether website advancement levels are similar for companies in countries facing more severe Internet infrastructure limitations.

Also, a performance measure has not been included in this study. Since our research is descriptive in nature, we cannot give normative recommendations. Previous studies (Lee and Grewal, 2004; Wu et al., 2003) found that using the Internet as a communications channel has a positive impact on performance, while using it as a transactional channel does not improve performance. Also Sunil et al. (2007) found different relationships with performance measures for information-oriented websites than for transaction-oriented websites. Future research could test how performance is related to the transactional and relational goal hierarchies and the website advancement levels in both dimensions. This would provide insights into whether firms are successful in implementing subsequent website advancement stages. Moreover, while our findings suggest possible directions of website development, it is not clear what features a website should have in each of the advancement levels. Thus, to provide managers guidelines for website design, future research could focus on website features required to achieve various website goals. Finally, in this study we have focused on the extent to which a website supports customers in their purchase process. Although this is definitely crucial for online success, it is not the only factor managers have to consider when developing or maintaining websites. Other factors play a role as well, such as the match with the firm's marketing and IT strategy, the competitive situation and opportunities and/or limitations associated with the current website architecture. It would be interesting to extend the model used in this study with (some of) these factors, by investigating a more diverse set of factors simultaneously. The ultimate goal of such research could be to develop a website scorecard that provides a comprehensive and complete overview of the strength of the current website and the avenues open for further improvement.

In this study we have investigated the stages of website advancement and found that website advancement is determined by two dimensions, a transactional and a relational dimension. We expect that this finding will be instrumental in further exploring and investigating the commercial capabilities of the Internet.

# Appendix I

## Measurement scales

**A. Importance of Website Goals (scale: 1 "not important at all" to 5 "very important").**

| Variable name | Measurement |
|---|---|
| Image building *(Image)* | 1. To build, maintain, and strengthen corporate and/or brand image |
| Assisting customers in selecting products *(Product selection)* | 2. To assist customers in selecting products and/or services |
| Online ordering *(Ordering)* | 3. To enable customers to order products and/or services |
| Online payment *(Payment)* | 4. To enable customers to pay for products and/or services |
| Online delivery (*Delivery*) | 5. To deliver products and/or services to customers |
| Information about order progress *(Order progress)* | 6. To inform customers about progress of the order fulfillment process |
| After-sales services *(After-sales)* | 7. To provide after-sales service to customers |
| Strengthening relationships with customers *(Relationships)* | 8. To strengthen and maintain relationships with customers |

**B. Technological opportunism items, based on Srinivasan et al. (2002) (scale: 1 "strongly disagree" to 5 "strongly agree").**

1. We are often one of the first in our industry to detect technological developments that could potentially affect our business
2. We actively seek intelligence regarding technological changes in the environment that are likely to affect our business
3. We are often fast to detect changes in technologies that could affect our business
4. We periodically review the likely effects of technological changes on our business
5. We generally respond very quickly to technological changes in the environment.
6. Our firm/business unit is one of the most responsive to new technologies within the industry
7. We always respond fast to new technologies
8. We tend to resist new technologies that could cause our current investments to decrease in value

# 3 Transactional and Informational Functions of Websites: Which is More Important for Success?

*In this study, we propose and test the chain of effects from website content, through informational and transactional success towards overall website success and company performance. This framework enables us to determine the relative importance of the informational and transactional function of a website, to identify which website features impact website success, and to show that website features (the site content), through a number of intermediate performance measures, contribute to the financial performance of a company. The results are based on an empirical study of 380 companies across a wide range of industries. We find that both the informational and the transactional website functions have a significant impact on website success, but that the impact of the informational function is much larger.*

## 3.1 Introduction

Retailers have made large investments in their online businesses but are still struggling to make money out of the World Wide Web (Dayal et al., 2002). Not all website investments lead to increased performance (Xue et al., 2006) and not much is known about how organizations evaluate their e-commerce investments (Standing and Chad, 2007). The search for ways to make the Web profitable is therefore on. Auger (2005) argued that a closer focus on performance is critical for e-commerce, given the large investments that are often required in designing and maintaining commercial websites. Online activities should be made accountable. Mahmood et al. (2004) argued that objective evidence is needed to show that a well-executed e-business initiative will provide benefits to a business. In other words: why are some firms better able to leverage the Internet to enhance performance?

The answer to this question could be related to the way companies use the Internet. Firms vary considerably in their use of e-business (Hsu et al., 2006) and a crucial factor could be the extent to which a company uses a website for informational and/or for transactional purposes (e.g., Geyskens et al. 2002, Teo and Pian 2004, Lee and Grewal 2004, Mithas et al. 2007). Although each website has an informational function, the extent to which this function is implemented in the site varies considerably, from providing only basic information about the company to extensive information about both the company and the specification and possible uses of its products. Similarly, the extent to which sites support transactions varies considerably, with many sites not even offering customers the possibility of making purchases (see chapter 2). Hsu et al. (2006) cite several reasons for not fully using the Internet for both informational and transactional purposes, such as technological backwardness, organizational obstacles and environment constraints. There is some empirical evidence that different website capabilities lead to differences in website performance (e.g. Chakraborty, Lala and Warren, 2003; Liang and Lai, 2002; Mithas et al., 2007). An important question is to what extent the use of a website for informational and/or transactional purposes improves website

success and ultimately the company's success (Hsu et al., 2006; Teo and Pian, 2004).

In this study, we provide new theoretical and empirical insights into the relative importance of the informational and transactional function of company websites by establishing the chain of effects from website features, through informational and transactional success towards overall website and company performance. By establishing this chain of effects we make three important contributions. First, we are able to determine the relative importance of the informational and transactional functions of a website. Second, by linking features to success measures, we identify which website features impact website success. Third, by establishing the chain of effects we link website features (the site content) through a number of intermediate performance measures ultimately to the financial performance of a company. By empirically validating these links, using a sample of 380 companies, we provide an important argument for the e-commerce accountability debate.

The chapter is organized as follows. In the next section, we review the literature, present our conceptual model and introduce the main constructs. After that, we describe the research design, including data collection and data analysis. Next, we present the results. We conclude with a discussion, managerial implications and limitations.

## 3.2 Conceptual framework

### 3.2.1 Informational and transactional website functions

It is often stated that only websites developed to meet customer needs and wants will survive and prosper (e.g., Luo and Seyedian, 2004). People visiting websites may be driven by different needs, such as finding pre-purchase information about products, finding information about the use of a product, ordering products, or contacting the organization. The website should serve as a support tool for customers in the different stages of their purchase process. Thus, knowledge of the customer purchase decision process should drive the design of a website (Huizingh, 2002). To understand the phases that customers

go through in acquiring a product, the consumer decision-making process literature presents various models (e.g., Engel et al., 1995; Howard, 1977). In the context of electronic commerce the customer service life cycle (CSLC) framework has been used (Saeed et al., 2003 and 2005). The CSLC model (Ives and Learmonth, 1984; Ives and Mason, 1990) covers the stages of requirement, acquisition, ownership and retirement. The retirement stage is outside the scope of this study, since we focus on customer support in the purchase and usage process. Each stage can be characterized as either informational (i.e. the requirement stage and the ownership stage, in which the website supports informing customers and relationship building) or transactional (i.e. the acquisition stage, in which the website supports customers in conducting transactions). This distinction between the informational and the transactional website functions is consistent with extant e-commerce research (e.g., Teo and Pian, 2004; Mithas et al., 2007). This distinction is also consistent with customers activities on website, namely customers search for information and do not search for relational aspect as discussed in chapter 2.

### 3.2.2 Website functions and success

Website success can be studied from both a customer and a supplier perspective. While the customer perspective is important since customer perceptions determine online customer behavior (e.g., DeLone and McLean 2004, Loiacono et al. 2007), the supplier perspective provides insight into the economic contribution of the Internet to the firm and the justification of e-commerce investments (Dutta and Roy, 2004). For example, Coelho et al. (2003) and Biyalogorsky and Naik (2003) investigated the impact of the transactional website function on company performance. Also, the effect of the informational function on success has been studied (Geykens et al., 2002; Deleersnyder et al., 2002). Moreover, Lee and Grewal (2004) considered retailers that adopted the Internet through the impact of the speed of adoption on Tobin's Q, a stock market-based measure of firm performance. They found that faster adoption of the Internet as a communication medium enhances

performance, but adoption for transactional functions has no effect, except for firms with preexisting catalog operations.

Most extant research on website and company success considered the informational and transactional functions separately. However, in practice most websites are likely to have different degrees of information or transaction richness (Mithas et al., 2007). Therefore, an important question we address is which of the website functions is more important for website success. In addition, we also study the relationship between website success and company success.

### 3.2.3 Chain of performance measures

In order to discover the relationship between the website's functions and company success, we propose a chain of performance measures (Figure 3.1). Establishing the (indirect) link between website functions and company performance is necessary to justify e-commerce investments (DeLone and McLean, 1992; Dutta and Roy, 2004). In this way, we relate relevant success measures on varying levels to each other. We start the chain of website performance measures with informational website success and transactional website success, and link these measures to overall website success. Overall website success in turn influences company success, which we distinguish into market performance and financial performance. Furthermore, to identify the website features that contribute to informational and transactional website success, we link the degree to which certain features are present in a website to informational and transactional website success.

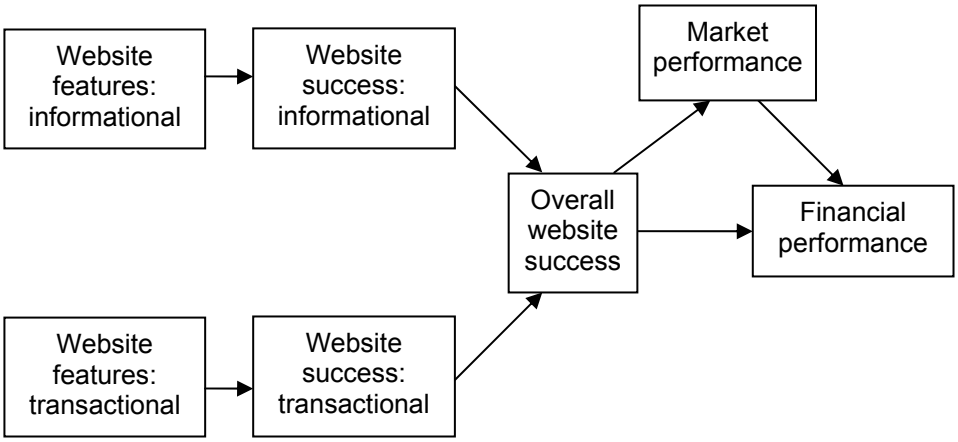



FIGURE 3.1. CONCEPTUAL FRAMEWORK

## 3.2.4 Constructs

### 3.2.4.1 Informational and transactional success

The measurement of a commercial website's performance is a difficult task. Palmer (2002) argued that there are multiple dimensions to the performance of commercial websites. In particular, website performance should reflect the objectives of commercial websites (Auger, 2005; Alpar et al., 2001; Torkzadeh and Dhillon; 2002). Therefore, in this study the performance of the informational and transactional functions is based on evaluating the goals underlying these website functions (for more information about the goals see section 2.2.3). This approach is important because it can provide a detailed and multifaceted description of success not necessarily bound by financial considerations (Wade and Nevo, 2006). Website success of informational and transactional functions is defined as the success of these functions in reaching informational and transactional website objectives.

As described in section 3.2.1, we linked the informational and transactional website function to the CSLC-framework. We operationalized the website functions' success by:

1. Disaggregating the stages of requirements, acquisition and ownership into more specific buying-process stages (Table 3.1);
2. Developing performance measures for each of the two website functions that measure the degree to which the website supports the disaggregated buying-process stages.

For the informational website function, four success measures were derived from the requirements stage and the ownership stage (see Table 3.1). These four measures reflect the degree to which the website is successful in: image building, assisting customers in selecting products, providing after-sales services and strengthening the relationships with customers. For the transactional website function, four success measures were derived from the acquisition stage. They are directly related to conducting transactions, i.e. online ordering, online payment, online delivery and offering information about order progress.

TABLE 3.1. CUSTOMER SERVICE LIFE CYCLE STAGES, SUCCESS MEASURES AND WEBSITE FUNCTIONS

| **Customer service life cycle stages** | **Disaggregated buying-process stages and their success measures**<br>*The degree to which the website is successful in:* | **Website functions** |
|---|---|---|
| Requirements | 1. Image building<br>*(Image)*<br>2. Assisting customers in selecting products<br>*(Product selection)* | Informational |
| Acquisition | 3. Online ordering<br>*(Ordering)*<br>4. Online payment<br>*(Payment)*<br>5. Online delivery<br>(*Delivery*)<br>6. Information about order progress<br>*(Order progress)* | Transactional |
| Ownership | 7. After-sales services<br>*(After-sales)*<br>8. Strengthening relationships with customers<br>*(Relationships)* | Informational |

#### 3.2.4.2 Overall website success and company performance

Overall website success is defined as the degree to which the website achieves its objectives in terms of number of customers and contributions to company's position in the market. Hence, it reflects the extent to which the website is considered as a useful instrument to interact and transact with the company's customers. Important aspects are the number of customers that actually visit the website and the degree to which the site strengthens the firm's competitive position. Both the informational and the transactional website function contribute to the overall success of the website, although their relative

contribution may differ (Liang and Lai, 2002). Our conceptual framework captures these relationships and allows for different contributions.

The ultimate goal of commercial websites is to contribute to the financial performance of the company. In this respect, websites that successfully assist customers in going through the various steps of the CSLC are expected to enhance both market performance, and financial performance. Market performance is defined as the degree to which a company is successful in satisfying and retaining its customers. Financial performance is understood as a company's success in reaching sales growth and profit. This is in line with previous studies showing that websites can contribute to customer satisfaction (Wade and Nevo, 2006) and financial performance (Zhu and Kraemer, 2002). Following other researchers in the field of market related performance (e.g., Rust, Moorman and Dickson, 2002; Goméz, McLaughlin and Wittink, 2004) we expect that, besides overall website success, market performance also influences financial performance. Therefore, we expect that market performance partly mediates the relationship between overall website success and financial company performance (Homburg et al., 2002).

#### 3.2.4.3 Website features

As Grandon and Ranganathan (2001) state: "online merchants should provide concise and precise information rather than loading their websites with heaps of unnecessary information content". This underlines that appropriate website features are required to make websites effective (McCarthy and Aronson, 2001; Saeed et al., 2003), which raises the question of which features are relevant. There is limited academic research on the relative importance of individual elements of website design (Mithas et al., 2007). Although several studies have proposed a list of website features (Begin et al., 2001; Perry and Bodkin, 2002), these studies are descriptive in nature. A study of website features and their influence on website performance therefore forms an important aspect of framing strategies for website design (Tarafdar and Zhang, 2006). Website features are the website elements that enable customers to fulfill their online tasks.

Different stages in the customer purchase process may be supported by different website features. This implies that the relative importance of particular website features may vary, depending on the specific stage. In this study we link website features relevant for the various stages in the buying process to the success of the informational and transactional website functions. This will allow us to determine which features sets are important for success in the informational and transactional functions, which is a basis for providing normative guidelines for website design.

## 3.3 Methodology

### 3.3.1 Sample characteristics

In this study the data is collected by mail survey among Dutch firms possessing a website and with at least 50 employees. The firms operate in various industries, ranging from financial services to construction. For a more detailed description on the data collection method we refer to section 2.3.1.

### 3.3.2 Measurements

#### 3.3.2.1 Performance measures

Since objective e-commerce performance measures are often not available or not appropriate (Wade and Nevo, 2006), we follow previous research and adopt subjective performance measures. Furthermore, other studies found a strong correlation between subjective assessment and their objective counterparts (Venkatraman and Ramanujam, 1987, 1986; Dess and Robinson, 1984).

*Informational and transactional website function success*

For both the informational and the transactional website functions, we developed performance measures reflecting the degree to which the website supports the buying-process stages as described in Table 3.1. Thus, the success of the informational function is measured by four items, representing the degree to which the site is successful in achieving image building, assisting customers

in product selection, providing after-sales service and strengthening customer relationships. Transactional success is measured by four items representing the degree to which online ordering, payment, delivery and order progress information are achieved. As these success measures are of a formative nature (see Section 3.3.2.3), no factor loadings are presented.

*Overall website success*

A multi-item measure is used to measure overall website success. The measure is composed of three items reflecting satisfaction with the number of (potential) customers visiting the website, satisfaction with the extent to which the website has strengthened the competitive position and an overall measure of satisfaction with the website's performance. Table 3.2 shows the factor loadings of these items.

*Market performance and financial performance*

Market performance is measured by a multi-item scale, reflecting the level of satisfaction with respect to: achieving customer satisfaction, retaining existing customers, improving customer relationships and building a positive company image (Homburg et al., 2002). Financial performance is measured by the level of satisfaction with achieving the desired ROI, market share, profit and sales growth (Barua et al., 2001; Homburg et al., 2002; Lusch and Brown, 1996). Table 3.2 presents the items and factor loadings for both market performance and financial performance.

TABLE 3.2. REFLECTIVE CONSTRUCT FACTOR LOADINGS AND T-VALUES

| Relective construct | Factor loading | t-value |
|---|---|---|
| **Overall website success items** Satisfaction with: | | |
| *Number of customers visiting the website* | 0.810* | 27.386 |
| *The website strengthened the competitive position* | 0.868* | 48.940 |
| *Overall performance of the website* | 0.855* | 47.808 |
| **Market performance items** Satisfaction with: | | |
| *Achieving customer satisfaction* | 0.699* | 14.560 |
| *Retaining existing customers* | 0.604* | 9.831 |
| *Building a positive company image* | 0.746* | 18.470 |
| *Improving customer relationships* | 0.811* | 28.755 |
| **Financial performance items** Satisfaction with: | | |
| *Market share* | 0.751* | 21.048 |
| *Sales growth* | 0.845* | 40.375 |
| *ROI* | 0.886* | 52.746 |
| *Profit* | 0.859* | 38.435 |

** significant at p=0.05 (t > 1.65).*

### 3.3.2.2 Measurement of website features

For both the informational and the transactional website function we identified relevant website features and measured whether or not each of these features is available in the company's website. We used the following procedure. First, a list of relevant website features was compiled based on a literature review and on analyzing the content of numerous websites. This procedure resulted in a list

of 50 website features. Each feature was allowed to belong to only one stage and therewith to either the informational website function or the transactional website function. Therefore, two academics and three practitioners, all experts in e-commerce allocated the features to the eight buying process stages (see Table 3.1). The classifications were virtually identical between all five judges and the very few inconsistencies were solved through discussion. Features that did not clearly belong to only one stage were excluded from the list. This procedure resulted in eight features sets consisting of altogether 45 features (see Appendix II). The informational features set construct is measured by features sets related to image building, product selection, after-sales service and relationship strengthening. The transactional features set construct is measured by the features sets for online ordering, online payment, online delivery and order progress information. Each features set is measured as a percentage that reflects the proportion of the total number of features in a set that are actually present in the website. The features sets constructs are of a formative nature (see next section).

To lessen the burden on the respondents the 45 features were divided into two groups. One group consisted of features that could easily be detected in a website; the presence of these features was determined by the researcher by visiting the company websites. The remaining features were included in the survey and the respondents were asked to indicate which of these features were present in their website.

#### 3.3.2.3 Formative and reflective constructs

Our measurement model is composed of both formative latent variables (informational and transactional features sets, and informational and transactional success) and reflective latent variables (overall website success, market performance and financial performance). The classification of the latent constructs was first based on a content-wise analysis. Next, factor analysis and correlations were checked. The items of each formative construct are indeed not highly correlated, 94% is below 0.35, and they do not form a one-dimensional

factor. The items of each reflective construct are highly correlated and clearly belong to the same factor.

For the reflective constructs, nearly all items have a loading higher than 0.7, explaining about 50 percent of the variance (Chin, 1998) and all t–values are significant (Table 3.2). Only one market performance item – retaining existing customers – has a loading of 0.60, which is close to the commonly-used cutoff value. In addition, construct reliability was evaluated by checking whether the Cronbach's Alpha met the threshold of 0.70 (Nunnally and Bernstein, 1994) while the convergent validity index was also higher than 0.50. The analyses showed acceptable results for all three reflective constructs. The alphas and convergent validity indices are: overall website success (0.80 and 0.71), market performance (0.70 and 0.52) and financial performance (0.86 and 0.70). Additionally, to verify discriminant validity, Table 3.3 presents the correlations between the latent variables of the model, which turn to be sufficiently low. To conclude, the formative and the reflective constructs satisfy the required measurement criteria.

TABLE 3.3. CORRELATIONS BETWEEN THE LATENT VARIABLES

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| **Informational features sets (1)** | 1 | | | | | | |
| **Transactional features sets (2)** | 0.338 | 1 | | | | | |
| **Website success informational (3)** | 0.428 | 0.174 | 1 | | | | |
| **Website success transactional (4)** | 0.214 | 0.626 | 0.067 | 1 | | | |
| **Overall website success (5)** | 0.275 | 0.107 | 0.480 | 0.290 | 1 | | |
| **Market performance (6)** | 0.101 | 0.011 | 0.200 | -0.051 | 0.194 | 1 | |
| **Financial performance (7)** | 0.122 | 0.120 | 0.143 | 0.068 | 0.130 | 0.364 | 1 |

### 3.3.3 Methodology

We estimate our model using a partial least squares (PLS) method for structural equation modeling (SEM) (Wold, 1982, 1985; Lohmoller, 1989; Tenenhaus et al., 2005). In comparison to the covariance-based method of SEM estimation (e.g. LISREL), PLS requires less strict assumptions about the distributional characteristics of the raw data and sample size (Fornell and Cha, 1994). Since the distribution of the data deviates from normality, this technique is considered adequate in the current research project. PLS also allows for the use of both formative and reflective variables, which is not generally achievable with covariate-based structural equation modeling techniques (Chin, 1998). We use SmartPLS software (Ringle et al., 2005).

## 3.4 Results

### 3.4.1 The model fit

In PLS the R-square values of the dependent constructs show the extent to which the model explains the variance of each variable separately (Hulland, 1999). Based on Cohen (1988), the effect sizes in our model can be categorized as large for transactional success (0.39); medium for informational success (0.18), overall website success (0.24), and financial performance (0.14); and small for market performance (0.04). In general, the R-square values indicate an acceptable fit for the model. Recently Tenenhaus et al. (2005) developed a global fit measure (GoF) for PLS. GoF (with values between 0 and 1) is calculated by taking the square root of the product of the average communality of all the constructs and the average R-square value of the endogenous constructs. GoF criteria for small, medium and large effect sizes are 0.1, 0.25 and 0.36 respectively. Our GoF index reaches 0.327, indicating a medium model fit.

In the following subsections, the interpretation of the model results (Figure 3.2) is conducted in two stages (Chin, 1998; Hulland, 1999). First, the measurement model is assessed to study the features sets. Next, we use the structural model to examine the size and significance of the relationships between the features sets and the various performance measures.

### 3.4.2 Measurement model results

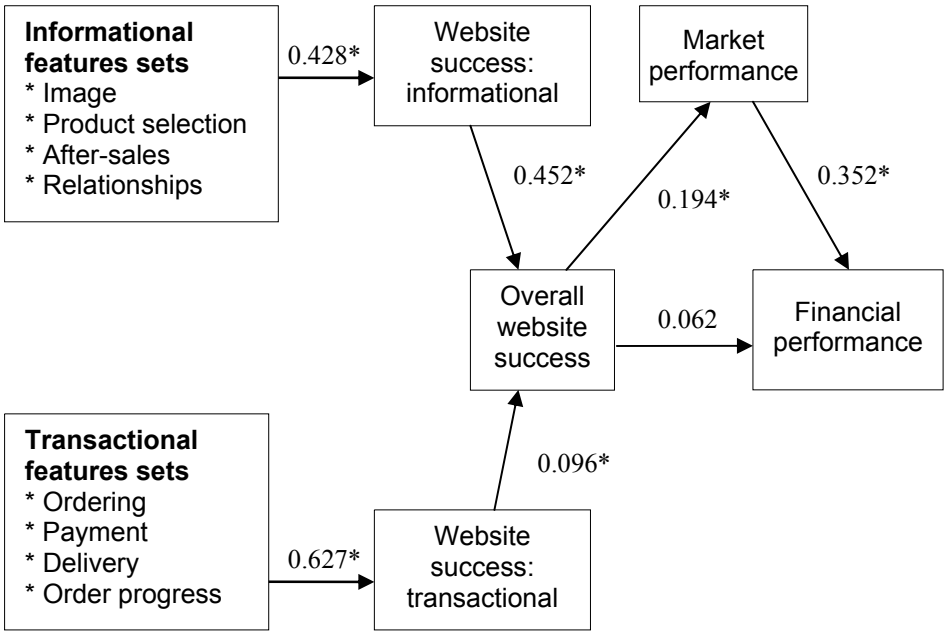
For each of the two website functions, we measured four features sets. In the measurement model, the relative importance of these features sets is examined. For the informational website function, three features sets have significant weights on the construct. Relationship strengthening (0.69) has the highest weight, followed by product selection (0.32) and image building (0.27). The weight of the after-sales service features set (0.17) is relatively small and not significant. For the transactional website function, again three features sets have significant weights. The largest weight is for order progress (0.67), followed by

online ordering (0.28) and online delivery (0.18). The weight of the online payment features set (0.09) is small and not significant.

### 3.4.3 Structural model results

The structure coefficients indicate the strength and direction of the relationships among the latent variables (see Figure 3.2). The statistical significance of parameter estimates is assessed using a bootstrap procedure which generates the t-value of each coefficient. Almost all constructs are significantly affected by the antecedent variables.

The path coefficient of 0.428 shows that informational website success is positively influenced by informational features sets, with an R-square value of 0.18. Furthermore, the transactional features sets have a positive and strong impact on transactional website success (coefficient 0.627), explaining 40% of its variance. Hence, the design of the websites, represented in our study by the various features sets, has a positive and significant influence on achieving success in the corresponding website functions.




** significant at p=0.05 (t > 1.65)*

FIGURE 3.2. RESULTS OF THE PLS MODEL

Overall website success is positive and significantly affected by success on both website functions. Transactional and informational website successes together explain 24% of the overall website success variance. However, success in the informational function (0.452) has a considerably greater effect than success in the transactional function (0.096).

Next, overall website success is positively and significantly related to market performance (0.194), but its direct effect on financial performance (0.062) is not significant. Finally, market performance is significantly and positively related to the financial component of company success (0.352). Hence, as expected, the relationship between overall website performance and financial performance is mediated by market performance (Figure 3.2). If market performance is omitted, the direct relationship between overall website

success and financial performance has a significant coefficient of 0.142. With mediation effect this coefficient is reduced to 0.062. Therefore, the effect of overall website success on financial performance is partially mediated by 48 percent, as computed by 0.194*0.352/0.142 (Shrout and Bolger, 2002). Regarding variance, only 4% of market performance and 14% of financial performance is explained by overall website success.

### 3.4.4 Alternative models specifications

Some studies (e.g. Verhoef et al.,2007; Teerling, 2006) found that informational and transactional components of website influence each others degree of success. Therefore, we investigate three alternative models with (1) informational website success affecting transactional website success, (2) transactional website success affecting informational website success, (3) interaction effect of informational and transactional website successes on overall website success (3). The results show each of these relationships is significant (p=0.05) and positive. The path coefficients are respectively 0.211, 0.251 and 0.247. The interaction effect shows that the components strengthen each other, but the positive interaction effect is rather small. Although, these additional relationships were found to be significant they did not produce a substantial increase in the overall goodness of fit. The increase of the GoF is between 0.004 and 0.007. Since adding complexity to the model hardly improves the overall fit, we have chosen the model presented in the conceptual framework (Figure 3.1).

## 3.5 Conclusions

The Internet plays an important role in today's business. Learning how to apply this channel effectively is essential. In this study, we proposed and tested the chain of effects from website features, through informational and transactional success towards overall website success and company performance. This framework enables us to determine the relative importance of the informational and transactional function of a website, to identify which website features

impact on website success and to show that website features (the site content), through a number of intermediate performance measures, contribute to the financial performance of a company.

Our results indicate that both the informational and the transactional functions contribute to website success. This finding is in contrast to Lee and Grewal (2004), who studied Internet adoption as a communications channel and as a sales channel. Only in the first case did they find a positive effect on firm performance. Since their study involved data from the Internet bubble period until 2000, it seems that we have found evidence that since then, Internet use by both suppliers and customers has matured significantly (see also Chu et al., 2007). Our sample consisted of a wide range of companies. For these companies, both the informational and the transactional functions contribute significantly to overall website success. This implies that there is, in general, no reason to limit Internet activities to information, communication or interaction-related tasks. Providing relevant support in the transaction stage also contributes to greater overall website success.

Nevertheless, informational success still has a much stronger impact on overall website success than transactional success. This finding underscores the importance of using the website to support customers in their requirements and ownership stages, as found by Saeed et al. (2005). A well-designed informational website improves a company's market performance and indirectly contributes to higher financial performance. These findings are in line with the belief that the Internet is foremost an information channel. However, this conclusion does not imply that firms should ignore the transactional function of the website. Transactional features may support customer retention and enhance the customer experience during the purchase process, thus stimulating future purchases from the same company (Saeed et al., 2005).

By linking website features to various levels of performance measures, we are able to demonstrate the importance of having the right content to website success. Both informational and transactional features sets have a positive impact on their respective website functions' success. For each website function there are three important features sets. To accomplish informational website

success the features related to strengthening relationships with customers are clearly most important, followed by features for product selection and image building. To achieve transactional website success, the features related to order progress tracking are most important, followed at a considerable distance by online ordering and online delivery. These findings differ from Saeed et al. (2003), who found no support for the relationship between website features in the acquisition (our transactional function) and ownership stages (our informational function), and performance. Our results show that firms can improve website performance through providing relevant website features throughout the customer purchase process. Managers can use the list of features included in the Appendix as a starting point for developing ideas for website improvement projects.

Now that the dotcom bubble is almost a decade past, the need for accountability of e-commerce efforts is increasing. To our best knowledge, we are the first to show empirical support for the causal chain of e-commerce effects, starting with website features, which refers to website content and is determined by companies, through the intermediate steps of informational and transactional website success, overall website success and market performance, ultimately to financial performance. Having established such a full chain of effects is not only useful for academic researchers, it is also helpful for managers trying to justify e-commerce investments. An established link with financial performance, albeit through some intermediate steps, is essential in e-commerce accountability debates. The intermediate success measures are also useful. In performance dashboards, such as the balance scorecard, they can be applied as early-warning indicators.

No study is without its limitations, and we would like to acknowledge our study's. The first limitation is the use of non-objective success measures. Although the literature shows perceptual measures to be highly correlated with objective measures (Venkatraman and Ramanujam, 1987 and 1986), future research could combine objective and perceptual performance measures (Auger, 2005). Secondly, in our study we relied on cross-sectional data. Our framework might be able to obtain even better support if it could be applied in a setting

where longitudinal data is available. Finally, we used only a single instrumental variable, website content, and linked that to the chain of e-commerce effects. However, there are many other variables that could be linked to this causal chain, most notably various measures of website quality (Barnes and Vidgen, 2006; Ethier et al., 2006; Ahn et al., 2007) and site user experiences (De Wulf et al., 2006; Castañeda et al., 2007). We hope that our efforts will serve as a useful starting point for other researchers exploring the issue of e-commerce accountability.

# Appendix II

**The website features for each of the customer purchase process stages**

| **Informational dimension** | |
|---|---|
| Image building | 1. Mission statement<br>2. A list of business partners, dealers, suppliers, alliances or customers<br>3. A list of memberships in associations, forums, councils etc.<br>4. Quality certification information<br>5. Downloadable folder of the organization<br>6. Non-digital contact information: telephone, fax or postal address<br>7. Introduction of management team, board of directors or CEO<br>8. Press releases with news about the organization<br>9. Conferences or events organized by the organization<br>10. Financial news or annual report<br>11. Community relations activities or sponsoring |
| Product selection | 1. Catalog of products<br>2. Information about special offers<br>3. Information about product reviews performed by third parties<br>4. Information about new products/services<br>5. Customer reviews of products/services<br>6. Presentation of different products/services for specific target groups |
| After-sales service | 1. Information about complaint policy<br>2. Information concerning the use or maintenance of products<br>3. Customers are invited to express their product experiences<br>4. Frequently Asked Questions section about product use or maintenance |
| Relationships strengthening | 1. Opportunity to subscribe to a mailing list<br>2. Web page contents adapted based on information about visitors<br>3. Visitors can access information stored in previous site visit<br>4. Visitors can customize the site<br>5. Memberships or loyalty programs<br>6. Pages where access is limited with a user name/password |

| **Transactional dimension** | |
|---|---|
| Online ordering | 1. Ability to order products/services online<br>2. Information about how to complete the order before actually ordering<br>3. Information about expected delivery date and/or costs<br>4. Information about guarantee conditions<br>5. Information about return policy<br>6. An option to specify when or how an order has to be delivered<br>7. After selecting a product, the website presents related products<br>8. Information about previous orders |
| Online payment | 1. Possibility of paying online<br>2. Multiple payment methods<br>3. Information about online payment security |
| Online delivery | 1. Ordered products/services are delivered through the site<br>2. Instructions on how to download the product/service<br>3. Instructions on how to use the online services |
| Order progress | 1. It is possible to view/request the order's status<br>2. Customer receive automatically an order confirmation<br>3. After submitting the order it is possible to change or cancel it<br>4. It is possible to receive a text message by start dispatch order |

# 4 The Effect of Complaint Behavior and Service Recovery Satisfaction on Intentions to Repurchase on the Internet

*In this chapter, we study whether dissatisfying experiences with online purchases and complaining by consumers impacts their intentions to buy on the Internet. Therefore, we distinguish groups of consumers on a) whether or not the consumer had negative experiences with online purchases, b) whether the consumer complained about it, and c) whether the consumer was satisfied with the complaint handling. We find remarkable differences between these consumer groups with respect to intentions to repurchase on the Internet, while controlling for past purchase behavior and consumer characteristics. Consumers with negative experiences who complained about them, have higher repurchase intentions than 1) consumers who did not have a reason to complain and 2) consumers who did not complain about their negative experiences (silent complainers), which supports the service recovery paradox for the online setting. Furthermore, among different consumer groups based on complaint behaviors and service recovery satisfaction the highest repurchase intention is among consumers who complained and are satisfied with the complaint handling. Based on the findings, we discuss theoretical and managerial implications.*

## 4.1 Introduction

Electronic commerce, especially sales in business-to-consumer (B2C) markets, increased remarkably and is expected to grow further in the next few years. For example, European B2C e-commerce sales are expected to hit USD 406.8 billion in 2011 (www.telecompaper.nl, 2007). However, for sustainable growth of Internet sales, it is crucial that consumers who adopted the Internet for purchases remain loyal to the channel (Srinivasan et al., 2003; Devaraj et al., 2003). Therefore, in this study the focus is on the final stage of the customer purchase process, the stage influencing customers' loyalty.

Customer satisfaction with online purchasing is an important driver of repeat purchases through the Internet (Devaraj and Kohli, 2003; Reibstein, 2002). However, a consumer making an online purchase may encounter a negative experience and become dissatisfied, which could lower his/her future online purchases. For example, a consumer may receive the products or services ordered very late or not at all, unordered products or services may be charged for, or refund policies may be violated. Such negative experiences could lead to complaints by the consumer, either to the company or website at which the purchase was made or to some external organization or website. The literature on traditional (offline) commerce (e.g. Dunning et al., 2004) indicates that even a dissatisfied customer is willing to repurchase from a retailer if his/her complaints were well handled. Hence, proper service recovery actions can win a consumer back (Holloway and Beatty, 2002), whereas if customers experience poor recovery efforts they may move to another retailer (Schneider and Bowen, 1999). To the best of our knowledge, complaint behavior and the so-called service recovery paradox (see De Matos, Henrique, and Vargas Rossi, 2007 for a recent meta-analytic overview) has hardly been addressed in the e-commerce literature. Pressing unaddressed questions include: What happens with dissatisfied and complaining online customers? Do they intend to buy online again or not? Does the service recovery paradox hold for online purchase behavior? Furthermore, do these issues depend on whether they complain to the company or to an external organization?

In this study, we contribute to the literature by investigating the impact of complaint behavior and service recovery satisfaction on the intention to repurchase on the Internet channel. To this end, we use a large-scale cross-European survey, which allows for generalization and international comparison of the findings.

The chapter is organized as follows. We first provide a review of the relevant literature and present the research model. Then, the study design is described. In the next sections we present the empirical results. Finally, we conclude, suggest potential implications for online retailers, and convey the limitations of this study.

## 4.2 Conceptual development

### 4.2.1 Satisfaction with online purchases

A consumer making an online purchase will have certain experiences during the purchase process. These experiences can be positive or negative and may cause the consumer to become satisfied or dissatisfied. According to the expectation-confirmation theory (ECT; Olivier, 1980), repurchase intentions and post-purchase behavior will differ between satisfied and dissatisfied customers. The ECT model posits that confirmation and satisfaction are the primary determinants of the intention to repurchase (Oliver, 1980; Bhattacherjee, 2001a, 2001b). Several studies on customer satisfaction and the intention to repurchase have applied expectation-confirmation theory in the e-commerce context (e.g. Bhattacherjee, 2001b; Khalifa and Liu, 2003; Atchariyachanvanich et al., 2007). In general, satisfied customers tend to continue purchasing through the Internet, whereas dissatisfied customers are tempted to disadopt the Internet as a purchase channel.

Service failure and recovery, complaint handling, and customer satisfaction with complaint management have all received considerable attention in the literature (Maxham and Netemeyer, 2002; Dunning et al., 2004; McCollough et al., 2000). For the offline context, it has been shown that even dissatisfied customers are often willing to repurchase. However, adequate

service recovery is critical because customers experiencing poor recovery efforts take their business elsewhere (Schneider and Bowen, 1999). This could be costly for a company, as it is known that it is usually cheaper to keep existing customers satisfied than to spend money on acquiring new customers (Schneider et al., 1998; Hart et al., 1990; Fornell and Wenerfelt, 1987). Some researchers refer to the 'service recovery paradox' (De Matos, Henrique, and Vargas Rossi, 2007; McCollough and Bharadwaj, 1992; Smith and Bolton, 1998), where effective recovery results in a more favorable consumer behavior or attitude than when no problem had occurred in the first place. Besides the potential impact on purchase intention, consumer complaints to the firm about negative experiences provide the firm with valuable consumer feedback, which may help firms improve their products or services (Blodgett and Anderson, 2000). It is clear that companies have much to gain from properly handling complaints. Therefore, service failure and recovery is a critical issue to all businesses, online and offline.

### 4.2.2 Complaint behavior about online purchases

Based on the consumer experience during the purchase process, consumers can be classified on the basis of three factors, namely a) whether or not the consumer had negative experiences with online purchases, b) whether and where (at the company or elsewhere) the consumer complained, and c) whether the consumer was satisfied with the complaint handling. This results in six consumer groups representing different complaint behavior and satisfaction with the service recovery (Figure 4.1).

Of course, a consumer may have had no negative experiences with online purchases in the past. This group of consumers (non-complainers, group 1) is generally satisfied and has no reason to complain about online purchases. When a consumer did experience a problem with an online purchase, there are several scenarios. First, it is possible that the consumer did not engage in complaint behavior even though s/he had a reason to do so (Chebat et al., 2005; Voorhees et al., 2006). This is the silent complainers group (group 2). Next, dissatisfied consumers can complain to the company owning the website via the

website, email, or by other means of (online) communication (Holloway and Beatty, 2003). We label this group the internal complainers group. This group can be split into two service recovery satisfaction groups, consumers satisfied (group 3) and unsatisfied (group 4) with the service recovery attempts. Consumers can also complain to an external (offline or online) source, such as an online complaint forum (Goetzinger et al. 2006; Ward and Ostrom, 2006) or a consumer organization (Day and Landon, 1977; Singh, 1989). This is labeled as the external complainers group, which is further divided into consumers satisfied (group 5) and non-satisfied (group 6) with the reaction by the company or organization following the complaint.

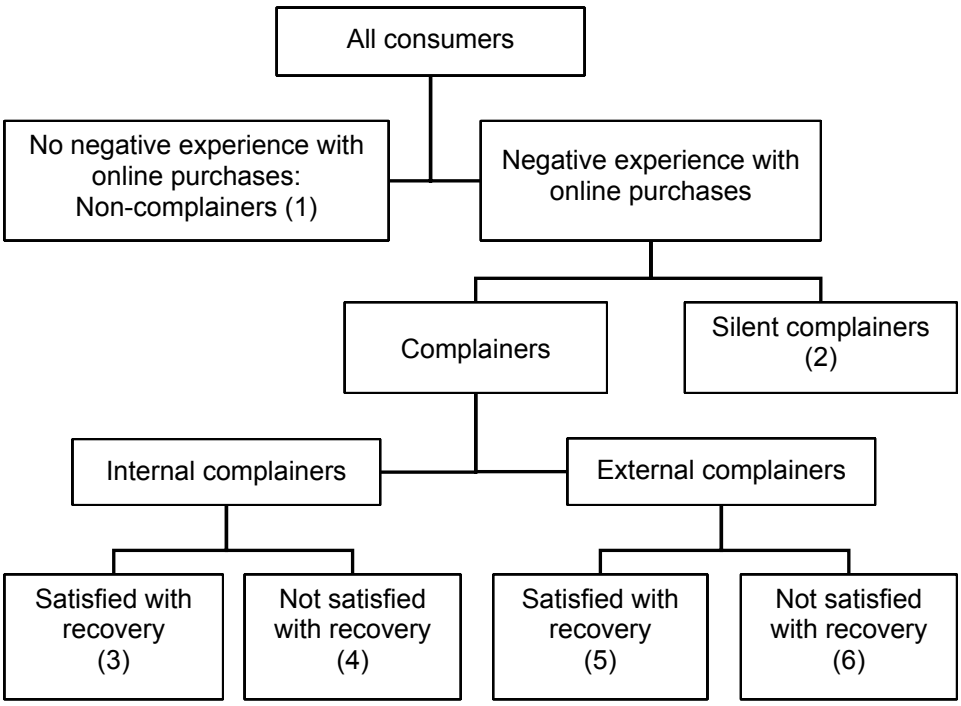



FIGURE 4.1. CONSUMER GROUPS BASED ON COMPLAINT BEHAVIOR AND SERVICE RECOVERY SATISFACTION

Much is known about complaint behaviors and their effects in offline retail and service settings. For example, Huang et al. (1996) described several different responses that can result from an unsatisfactory encounter, ranging from doing nothing to taking legal action. Others, such as McCollough et al. (2000), compared the satisfaction of customers who had received error-free service with those of post-recovery satisfaction. They found that for the post-recovery group, the higher the recovery performance, the higher the post-recovery satisfaction, supporting the importance of superior service recovery. Maxham and Netemeyer (2002) studied customers who complained directly to the retailer. They found that satisfaction with service recovery is a strong predictor of the likelihood of spreading positive word-of-mouth, but not of repurchase intentions. In a study on financial services, Larivière and Van den Poel (2005) found that complainers are relatively active customers. Furthermore, they showed that successful complaint handling by the company has a positive impact on repurchase behavior. In a comprehensive study, Voorhees et al. (2006) made a comparative analysis of silent complainers and complainers who received satisfactory, unsatisfactory, and no recovery. They examined differences in repurchase intentions, negative attitudes, perceived regret, and intentions to engage in negative word-of-mouth. The results showed that silent complainers are more likely to repurchase and are less negative than customers who complained and received no service recovery or a recovery that was unsatisfactory. In contrast, silent complainers are less likely to repurchase and are more negative than customers who complain and receive satisfactory recoveries.

In many ways the Internet does not change the fundamental principles of marketing (Barwise, Elberse and Hammond, 2002), and accordingly, the understanding we have achieved from offline service failure/recovery research is highly relevant online. However, there are many incidents and issues unique to the Internet environment. The circumstances surrounding the online failure incident may be quite different from the factors typically at the root of traditional service failures. For example, issues such as credit card security, privacy, punctual delivery, and ease of navigation have surfaced as critical

elements of e-service quality, and the online environment lacks most of the human interaction elements so vital to the traditional service experience (Holloway and Beatty, 2003). In addition, online customer complaints may differ due to the physical separation of buyer and supplier, and the perceived insecurity of the Internet (Warrington et al., 2000). Another important difference between online and offline complaint behavior is that the former can spread faster, to more people and remain accessible for other consumers for long periods**.** The emergence of the Internet and its communication capabilities has given rise to a number of complaint sites that function as central forums for consumers to share their bad experiences with other consumers (Chebat et al., 2005; Harrison-Walker, 2001). An example is Econsumer.gov, a joint project of consumer protection agencies from 21 nations. There are also discrepancies regarding the numbers of complaints in the offline and online environment. Previous research suggests that up to two thirds of consumers do not report their dissatisfaction to the firm in an offline setting (Andreason, 1985), whereas in online settings a much higher percentage of customers complain (Holloway and Beatty 2003). Therefore, compared to the offline context, consumers making online purchases may differ in their complaint behavior, loyalty towards retailers, and purchase intentions. Hence, it is necessary to test the issues already addressed in an offline setting in an online setting.

In recent years, complaint behavior has also received attention in the context of online retailing. Strauss and Hill (2001) performed a content analysis on company responses to email complaints and customer reactions to these responses. They found that a written reply had a positive impact on both the satisfaction with the response and the likelihood of repurchasing. Holloway and Beatty (2003) focused on the typology of online service failures, and on the areas in which online retailers are failing to effectively manage their service recoveries. The complaints under investigation were directed to the online retailer by email or phone. They found that satisfaction with recovery efforts does not ensure future purchase, as more than half of the satisfied complainers did not intend to repurchase. Harrison-Walker (2001) studied complaints at an external forum. The findings reveal that many consumers lodge first-time

complaints on the forums, rather than directly with the company; hence, companies should regularly monitor complaint forums and promptly respond to complaints. Another study of third-party sites (Goetzinger et al., 2006) suggests that e-tailers should provide their own online feedback system to minimize the number of complaints on independent, external sites. Several studies also addressed complaint behavior regarding online purchases, but none of the extant studies provide a comparison between various consumer groups as distinguished here with regard to their repurchase intentions. Hence, in this study we investigate how consumer groups with different complaint behavior and service recovery satisfaction differ with regard to their intention to repurchase on the Internet channel.

### 4.2.3 Past purchase behavior and consumer characteristics

Past behavior of consumers is an important predictor of future behavior (e.g. Rossi et al., 1996; Ouellette and Wood, 1998). More specifically, the frequency of previous online purchases has a positive impact on future repurchase intentions (Pavlou, 2003). Additionally, there could be an interaction effect in consumer complaint behavior and service recovery satisfaction on the one hand and past purchase behavior on the other. Also, consumer characteristics such as gender and age have an impact on online purchases (Akhter, 2003). Therefore, in addition to the effect of consumers' complaint behavior and service recovery satisfaction on repurchase intention, our research framework (Figure 4.2) includes the effects of past online purchase behavior and consumer characteristics as control variables.

### 4.2.4 Country groups

Next, we expect that customers from different countries with a different cultural background may differ in online repurchase intention. Hofstede (1983, 2001) discussed how cultures vary along five dimensions and rated countries on indices for each of them. These dimensions are: power-distance, collectivism versus individualism, femininity versus masculinity, uncertainty avoidance and

long versus short-term orientation. With regard to online repurchases, the uncertainty avoidance dimension could explain customers' intentions, since it deals with society's and consumers tolerance for uncertainty and risk. Some cultures accept risk more than others. High uncertainty avoiding cultures try to minimize the possibility of unknown, surprising, different from usual situations, create security and avoid risk. It is opposite in low uncertainty avoiding countries, where consumers are more risk accepting. There is also a group of countries having medium uncertainty avoiding index. Consequently, customers from cultures with different uncertainty avoidance level should differ with regard to online repurchase intention. We expect that consumers from high uncertainty avoiding countries have lower online repurchase intention than consumers from medium and low uncertainty avoiding countries. Also, the differences with regard to uncertainty avoidance level may moderate the relationship between the complaint behavior and service recovery satisfaction and repurchase intention on the Internet. Therefore, the country effects (the main and the interaction) are included in the research framework.

### 4.2.5 Research framework

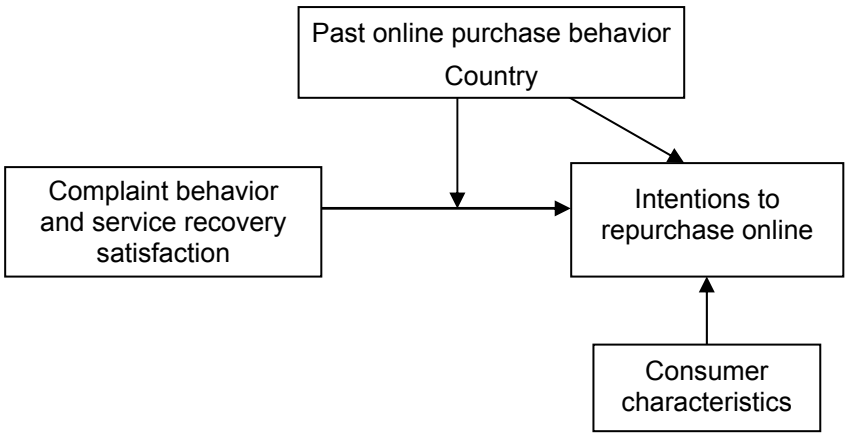



FIGURE 4.2. RESEARCH FRAMEWORK

To conclude, we are interested in differences in online repurchase intention among consumers with different complaint behaviors and service recovery satisfaction, and from various countries. The framework presented in Figure 4.2 includes the relationships discussed above, namely the influence of complaint behavior and service recovery groups, country, and control variables, i.e. past online purchase behavior and consumer characteristics, on intentions to repurchase online.

## 4.3 Study design

### 4.3.1 Survey description

In September 2003, the European Opinion Research Group, a consortium of market and public opinion research agencies, carried out wave 60.0 of the Standard Eurobarometer. Data was collected at the request of the European Commission, Directorate-General Press and Communication, Public Opinion Analysis Unit. The Standard Eurobarometer survey covers the population of the fifteen European Union member states, aged 15 and over. The countries covered are Belgium, Denmark, Germany, Greece, Spain, France, Ireland, Italy, Luxemburg, the Netherlands, Austria, Portugal, Finland, Sweden, and Great Britain. The basic sample design applied in all member states is a multi-stage, random probability one. The sample size was around 1000 for large countries and smaller for Luxemburg and Ireland. We restrict the sample to respondents who indicated having online purchase experience. The sample size of the respondents who had purchased on the Internet is 2978.

### 4.3.2 Measurements

One of the topics covered in Eurobarometer 60.0 is e-commerce (questions 62–83, see Appendix III), which we will use in this study. The dependent variable in our study is the consumers' intention to repurchase on the Internet in the next three months. The possible answers are "yes", "no" and "don't know", where we combine the latter two categories. In the sample, 61.1% (1818) of consumers

intend to repurchase on the Internet channel, while 38.9% (1160) of the consumers do not intend to repurchase or do not know.

Categorization into complaint behavior and service recovery satisfaction groups is based firstly on the questions: 'After making an Internet purchase, have you ever had reason to complain? If yes, to whom did you complain?' A respondent is classified into the internal complainers group if s/he complained directly to the website online or to the organization owning/running the website, and into the external complainers group if s/he complained to a consumer organization, a government body, or another organization or association. Seventeen respondents belong to both the internal and the external complaint behavior categories. For reasons of relative group sizes, these cases are place in the external complaint behavior group. A consumer is classified into the silent complainers group, if s/he indicated that s/he had a reason to complain but did not actually complain. Customers who never had reason to complain after an Internet purchase are categorized as non-complainers. Next, the categorization into one of the six complainers groups is based on the customers' satisfaction with the response to the complaint using the question 'Were you satisfied or dissatisfied with the way your complaint was handled?'.

As control variables, we use measures of past online purchase behavior and consumer characteristics. Past online purchase frequency is measured as a categorical variable, on which we perform a median split. Online purchase frequency is considered to be high if a respondent indicated buying on the Internet once every 3 months or more often, and low if a respondent indicated buying on the Internet once every 6 months or less often. The respondents' age is measured in four categories, namely 15 to 24 years, 25 to 39 years, 40 to 54 years, and 55 years or older. Respondents also indicated their gender.

The country grouping is based on the uncertainty avoidance index developed by Hofstede (2001, 2005). The fifteen countries are categorized into three groups: high, medium and low uncertainty avoiding countries. The countries with high uncertainty avoidance index are: Greece, Portugal, Belgium, France, Spain, and Italy. The countries that belong to the medium group are: Luxemburg, Austria, Germany, Finland, and the Netherlands. The countries

with low uncertainty avoidance index are: United Kingdom, Ireland, Sweden, and Denmark.

### 4.3.3 Sample description

With respect to past online purchase behavior, 40.5% (1192) of the respondents have a high purchase frequency of at least once every three months, and 59.5% (1748) a low purchase frequency. The percentage and number of respondents in each country group is: 16.7% (492) in high, 42.1% (1238) in medium, and 41.2 (1211) in low uncertainty avoiding countries. In the sample, 22.0% of the respondents are in the 15 to 24 age group, 41.0% are 25 to 39, 26.1% are 40 to 54, and 10.9% are aged 55 or older. Finally, 44.5% (1308) of the respondents are female and 55.5% (1632) are male.

### 4.3.4 Methodology

To answer our research questions (Figure 4.2) we took the following steps. First, the entire sample was cross-tabulated to compare repurchase intention between the six complaint behavior groups. We also compared the repurchase intention between pairs of complaint behavior groups. Next, we performed logistic regression with repurchase intention on the Internet as the dependent variable and the main effects of the independent variables. This methodology is used because the dependent variable 'repurchase intention on the Internet' has two discrete values: yes and no. To investigate the presence of interaction effects, we added the interaction effects one by one to the logistic regression with the main effects. Each interaction effect was added separately to avoid multicollinearity problems. In particular, we tested the following interaction terms: complaint behavior and service recovery satisfaction groups and past purchase frequency, complaint behavior and service recovery satisfaction groups and country.

## 4.4 Results

The complaint behavior groups differ substantially in size. The majority of the respondents (83.8%, n = 2464) did not have negative experiences with online purchases. The group of silent complainers is relatively small (1.5%, n = 45), which is consistent with previous research (Holloway and Beatty, 2003). The number of internal complainers (13.1%, n = 386) is much larger than the number of external complainers (1.5%, n = 46). With respect to internal complaints, most consumers are satisfied with the response (9.8%, n = 288) and a smaller group is unsatisfied (3.3%, n = 98). For external complaints, these two groups are more similar in size, where the group of satisfied consumers (0.9%, n = 27) is slightly larger than the group of dissatisfied consumers (0.6%, n= 19).

To get insights into repurchase intentions across the complaint behavior and service recovery satisfaction groups, we first present group differences using the original classification variables (Figure 4.3). Whether or not a consumer had a reason to complain about online purchases in the past is significantly related to repurchase intentions (chi-square = 36.790; $p < .001$). Repurchase intentions are considerably higher among the group of consumers who indicated having had a negative experience with online purchases (58.9% versus 72.7%). Next, among those consumers who did have a reason to complain, there were significant differences between those who actually did complain (74.3%) and those who did not (57.8%) (chi-square = 5.615; $p = .018$). Comparing complainers on the basis of the source to which they complained also indicates significant differences (chi-square = 4.868; $p = .027$). Consumers who complained internally to the website or company (75.9%) show higher repurchase intentions than those who complained externally (60.9%). For both internal and external complainers, we tested whether satisfaction with the response affects repurchase intentions. For both sources, we find significant differences: 78.5% against 68.4% for internal complaints (chi-square = 4.082; $p = .043$) and 74.1% against 42.1% for external complaints (chi-square = 4.785; $p = .029$). Hence, service recovery has a substantial positive contribution to repurchase intentions of consumers who complained directly at the company or website and for those who complained at external sources. Finally, we

compared consumers who had no reason to complain with those who complained internally or externally and were satisfied with the response. These two groups also differ significantly (chi-square = 43.337; $p < .001$). Non-complainers have much lower repurchase intentions (58.9%) than consumers who experienced a positive service recovery (78.1%), which can be considered as empirical support for the service recovery paradox regarding online purchase behavior.

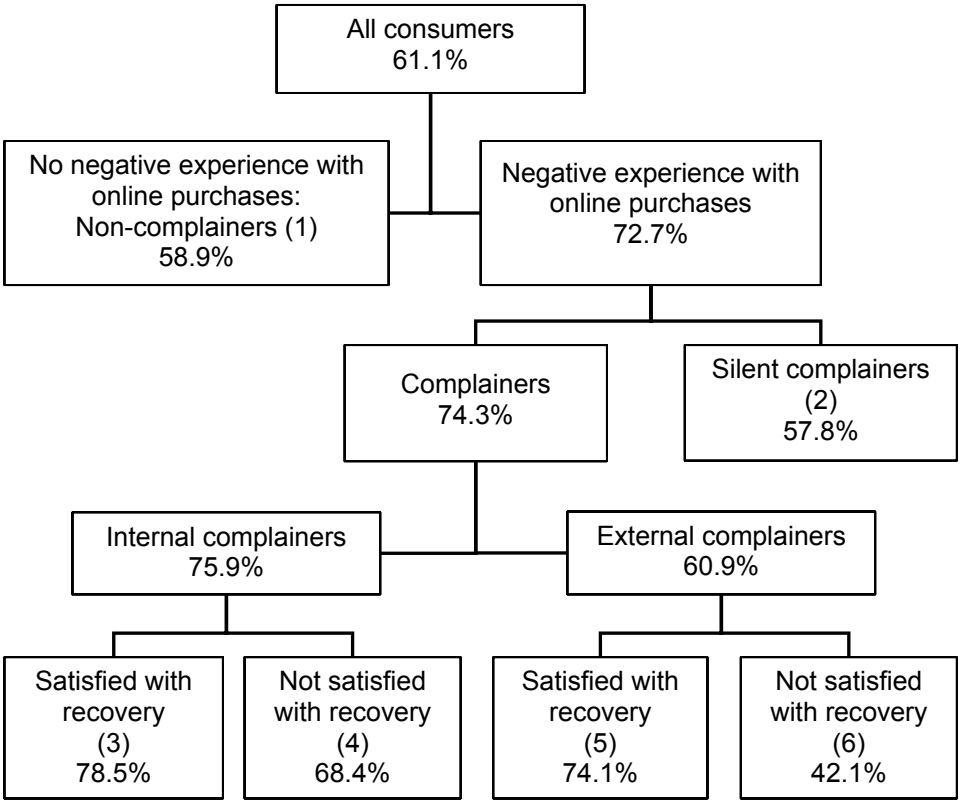



FIGURE 4.3. CONSUMER GROUPS BASED ON COMPLAINT BEHAVIOR AND SERVICE RECOVERY SATISFACTION: PERCENTAGES OF CONSUMERS THAT HAVE INTENTIONS TO REPURCHASE ONLINE

Next, we performed logistic regression with repurchase intention on the Internet as the dependent variable and the main effects of the independent variables. Since the number of respondents in the external complainers group is low, we combine the external complainers satisfied with service recovery with the internal complainers satisfied with service recovery. This is the complainer group satisfied with the response received. Also, the consumers from both the external and the internal complainers groups not satisfied with service recovery are combined into a single group of the complainers not satisfied with the response received. Consequently, four consumer groups are included in logistic regression: non-complainers, silent complainers, complainers satisfied with response, and complainers not satisfied with response.

The results (Table 4.1) show that complaint behavior and past online purchase frequency significantly influence repurchase intention (at $p = 0.05$). Country group, age, and gender do not have significant main effects on repurchase intention on the Internet. In addition to assessing main effects, we tested for interaction effects between complaint behavior and the following variables: past purchase frequency and country groups. The results are also presented in Table 4.1. None of the interaction terms is significant. Below, the fit and results of the model with main effects are presented and discussed in more detail.

Regarding model fit, the model significantly outperforms the null model with only an intercept (likelihood ratio chi-square = 767.743; d.f. = 10; $p < 0.001$). Furthermore, the proportion of explained variation is about 31% (Nagelkerke pseudo $R^2 = 0.312$). Hence, we consider the model fit satisfactory.

TABLE 4.1. LOGISTIC REGRESSION RESULTS: SIGNIFICANCE TESTS

| **Explanatory variable** | **Main effects model** | | | **Models including interaction effects** | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Chi-square | d.f. | p-value | Chi-square | d.f. | p-value | Chi-square | d.f. | p-value |
| Complaint behavior (A) | 16.092 | 3 | 0.001 | | n.a.[a] | | | n.a.[a] | |
| Past purchase frequency (B) | 706.659 | 1 | < 0.001 | | n.a.[a] | | 706.517 | 1 | < 0.001 |
| Country group (C) | 2.572 | 2 | 0.276 | 2.545 | 2 | 0.280 | | n.a.[a] | |
| Age group | 1.527 | 3 | 0.676 | 1.402 | 3 | 0.705 | 1.677 | 3 | 0.642 |
| Gender | 0.199 | 1 | 0.655 | 0.198 | 1 | 0.656 | 0.226 | 1 | 0.634 |
| Interaction A x B | | | | 4.223 | 3 | 0.238 | | | |
| Interaction A x C | | | | | | | 9.469 | 6 | 0.149 |
| Nagelkerke Pseudo R-square | | .312 | | | .313 | | | .315 | |

a: The likelihood ratio statistic cannot be computed because the reduced model, omitting this variable, has the same degrees of freedom as the final model

In Table 4.2, we present the parameter estimates and tests reflecting how the categories of each variable differ from to the corresponding base category. Among complaint behavior groups, complainers satisfied with response have significantly higher repurchase intention than non-complainers. Concerning country groups, customers from high and medium uncertainty avoiding countries do not differ significantly in their intention to repurchase online from the customers in the base category: low uncertainty avoiding countries. Regarding the control variables, consumers with high past purchase frequency online have significantly higher intention to repurchase on the Internet in comparison to the customers with low past purchase frequency. Consumers in various age groups are not significantly different from the base age category (55 years and more) with respect to repurchase intention. Moreover, online repurchase intention does not differ significantly between female and male consumers.

TABLE 4.2. LOGISTIC REGRESSION RESULTS: EFFECTS OF COMPLAINT BEHAVIOR, COUNTRY AND CONTROL VARIABLES ON REPURCHASE INTENTIONS

| Explanatory variable | Category | Parameter estimate | Wald statistic | p-value |
|---|---|---|---|---|
| Complaint behavior | Non-complainers (1) | n.a.[a] | | |
| | Silent complainers (2) | -.244 | .471 | .492 |
| | Complainers, satisfied with response (3) | .608 | 14.503 | < .001 |
| | Complainers, not satisfied with response (4) | -.059 | .067 | .795 |
| Past purchase frequency | Low frequency | n.a.[a] | | |
| | High frequency | 2.438 | 518.276 | < .001 |
| Country group | High uncertainty avoiding countries | .074 | .355 | .551 |
| | Medium uncertainty avoiding countries | .153 | 2.567 | .109 |
| | Low uncertainty avoiding countries | n.a.[a] | | |
| Age group | 15–24 | -.028 | .030 | .862 |
| | 25–39 | .064 | .189 | .664 |
| | 40–54 | -.064 | .169 | .681 |
| | 55 and older | n.a.[a] | | |
| Gender | Female | n.a.[a] | | |
| | Male | .039 | .199 | .655 |

a: Benchmark category for the dummy variables

## 4.5 Discussion

### 4.5.1 Conclusion

This study provides insights into how consumers' dissatisfaction with online purchases impacts their future intention to buy using the Internet channel. In particular, we demonstrate how repurchase intentions depend on complaint behavior and service recovery satisfaction. We distinguish groups of consumers on the basis of a) whether or not the consumer had negative experiences with online purchases, b) whether and where (at the company or elsewhere) the consumer complained, and c) whether the consumer was satisfied with the complaint handling. We find remarkable differences between these consumer groups with respect to intentions to repurchase on the Internet. Consumers with negative experiences who complained about them and were satisfied with the complaints handling, have higher repurchase intentions than 1) consumers who did not have a reason to complain and 2) consumer who did not complain about their negative experiences (silent complainers). Therefore, we contribute to the literature by empirically demonstrating the service recovery paradox for the online purchase setting. To conclude, our findings add important insights into the existing literature through an empirical comparison of different complaint behavior and service recovery satisfaction groups on their intentions to repurchase online.

In general, our findings show that consumers with negative experiences of online purchases who complained have higher repurchase intentions than consumers with no negative experiences. Hence, a first important conclusion is that negative experiences and complaints do not lead necessarily to disadoption of the Internet as a purchase channel. This is consistent with the service recovery paradox which states that consumers with negative experiences may have more positive attitudes or repurchase intentions after a successful service recovery, compared to consumers who did not have the negative service experiences (Smith and Bolton, 1998). Our results show that customers who complained and were satisfied with the response have higher intention to repurchase online than non-complainers. In a stream of research, this pattern has

been shown in several publications for offline retail and other service settings (see De Matos et al., 2007). To the best of our knowledge, our study provides the first empirical evidence of the service recovery paradox in online settings. Also, we show that service recovery paradox does not depend on consumer's country, the findings hold for all studied European countries.

Our results suggest that in online business, both internal and external satisfied complainers have higher repurchase intentions than consumers with no reason to complain. The highest rate of intention to repurchase online is among those who are satisfied with the internal complaint handling, which corresponds to the results of Voorhees et al. (2006) in an offline setting. To conclude, service recovery and satisfactory complaint handling are crucial for electronic businesses.

A second conclusion is that complaining consumers have higher Internet repurchase intentions than consumers with negative experiences who did not complain (silent complainers). To be more specific, this finding holds for both internally satisfied and dissatisfied complainers, and for externally satisfied complainers. Consumers who complained to an external organization and were dissatisfied with the complaint handling have lower repurchase intentions than silent complainers. These findings differ partly from the study in an offline setting by Vorhees et al. (2006). They also found that consumers complaining internally to a company and satisfied with the complaint handling have higher repurchase intentions than silent complainers. However, where a consumer was not satisfied with the complaint handling the purchase intention was found to be lower than that of silent complainers. Therefore, in the Voorhees et al. (2006) study, service recovery appears to be more crucial.

Third, our results suggest that internal complainers have on average higher repurchase intentions than external complainers. This finding is in line with findings from other studies (e.g. Goetzinger et al., 2006) where companies were encouraged to provide their own online feedback system for complaints to minimize the number of external complaints.

Fourth, both complaint routes – internal and external – can serve to retain customers if the complaint handling is satisfactory. However, in an

offline setting, Maxham and Netemeyer (2002) found that satisfaction with service recovery was not a predictor of purchase intention. Moreover, in the online setting, Holloway and Beatty (2003) found that satisfaction with recovery efforts does not ensure repurchase intention. Nonetheless, our findings reveal that a high percentage of consumers deciding to complain directly to an e-tailer or to an external organization who were satisfied with the response also demonstrated high repurchase intentions. However, if consumers are unsatisfied with the response to the complaint, the percentage of repurchase intention drops considerably. For internal complainers repurchase intention drops from 78.5% to 68.4% when the complaint is not handled in a satisfactory manner. For external complainers, repurchase intention drops even further, from 74.1% to 42.1%. The group of external complainers unsatisfied with the response has the lowest intention to repurchase on the Internet among all the complaint groups examined. Therefore, service recovery pays off, both for internal and external complaints.

Finally, when assessing the effects of complaint behavior, we controlled for past purchase behavior, consumer characteristics. The results reveal that repurchase intention on the Internet is dependent on complaint behavior and past behavior, but not on the consumer's age or gender. Furthermore, consumers from different country groups did not show different effects of complaint behavior on repurchase intention. Therefore, the impact of complaint behavior and service recovery satisfaction on future online purchases can be generalizable across customers from different European countries.

### 4.5.2 Managerial implications

The remarkable differences among complaint behavior and service recovery groups bring several implications for e-commerce management.

Based on the results, it is best for electronic businesses that customers complain internally. Therefore, management should encourage customers to complain internally. Moreover, Goetzinger et al. (2006) stated that online sellers receive the greatest benefit when consumers choose to complain directly to the e-tailer because of their awareness of the problem and their ability to respond.

Hence, with successful internal complaint management, the e-tailer achieves two goals: s/he gets direct information from the consumer and the consumer will probably make more online purchases in the future.

Regarding external complainers, it is crucial to ensure that they are satisfied with the response to the complaint. The worst case scenario is an external complaint which is not dealt with correctly, so management should try to avoid this. External complaints should be carefully monitored and handled. However, external complaints are usually neither readily accessible nor simple to respond to for the e-tailer. E-tailers may not know where consumers complained and consumers may remain anonymous. Management should be in contact with external complaint organizations (websites) in order to be able to react promptly to external complaints. Management should aim to ensure customers are satisfied with the external complaint handling. Capturing the valuable information that consumers provide by complaining to external organizations is a challenge (Goetzinger et al., 2006). There are also legal threats that can result from third-party complaining. Therefore, online retailers are encouraged to improve their reputation in external complaint organizations and carefully address the complaints made at these organizations.

Next, companies could try to encourage silent complainers to voice their complaints, as their repurchase intention is otherwise relatively low. Dissatisfied customers who do not complain to the firm are potentially problematic for several reasons. First, the company loses the opportunity to retain the customer. Second, the firm's reputation can be damaged through negative word-of-mouth behaviors (e.g. Richins, 1983). Additionally, silent complainers were described as organizational 'opportunity costs' (Fornell and Wenerfelt, 1987), because in them the firm misses an opportunity to improve after failure and identify the source of a problem. The firm is left without valuable feedback about the customer's negative experience. Therefore, e-commerce management should encourage dissatisfied customers to complain so that one will have the chance to address the problems and retain these customers. For example, an e-tailer may implement a standard procedure to

send an email shortly after a purchase has been made to inform whether or not the consumer is satisfied.

We conclude by stating that service recovery in an online setting can make the difference. Consumer satisfaction with complaint handling is essential for the future of online businesses. Furthermore, customers should be encouraged to complain internally and it should be an easy and straightforward task. Management should make the internal complaint process easy. If the complaint process is uncomplicated, silent complainers might also be stimulated to report their dissatisfaction. Holloway and Beatty (2003) mentioned that among those respondents choosing not to complain to the online company following a service failure experience, the primary reason given was that complaining was too much trouble. This should be particularly straightforward in Internet retailing, as technology plays a key role in facilitating consumer complaints (Bitner et al., 2000). Online complaining is expected to require minimum effort and be less-time consuming. Other options for customer feedback include toll-free numbers, email, a real-time chat room, etc. (Holloway and Beatty, 2003). Harrison-Walker (2001) recommended facilitation of complaint management through the adoption of call centers staffed by specialists trained to resolve individual customer problems, and also efficient company website design. Overall, the complaints should be made as simple as at ‘a click of a button’.

### 4.5.3 Limitations and future research

We must acknowledge some limitations of this study. First, regarding internal complaints, we have treated complaints made via the website and directly to the company as one group. External complaints to online and offline organizations were also grouped as one. However, splitting these groups could result in an even better understanding of complaint behavior online and offline. Furthermore, the sample size for external complainers is rather small in this study. What is more, we have no information about the number of Internet transactions of the respondents. Future research could therefore address these issues. Second, although we included a large set of countries in this study, the

results are limited to European countries. Future research could examine whether our findings can be replicated in other countries, preferably outside Europe. Third, although the sample size of our study is very large, the number of observations for some combinations of country and complaint behavior groups was very small. This is true in particular for the silent complainers and external complainers. Hence, further research projects which include larger samples of silent complainers and external complainers are called for. Finally, our dependent variable refers to repurchase intentions on the Internet channel in general. An interesting line of research would be to study repurchase intentions for a specific e-tailer. Nonetheless, our study adds valuable new empirical insights into consumer online complaint behavior and repurchase intentions, and suggests a number of managerial implications and directions for future research.

# Appendix III

## Questionnaire Eurobarometer 60.0, September 2003

The following questions from the Eurobarometer questionnaire were used: 62, 63, 72 (a,c), 79 from the 'Internet Purchases' section, D.8, D.11 from the 'Demographics' section and question 1 about the respondents' nationality. The original numbering from the Eurobarometer questionnaire is presented in brackets.

**Question 1 (Q. 62)**
Have you ever bought anything on the Internet?

1. Yes
2. No
3. Don't know

**Question 2 (Q. 63)**
How often do you buy things on the Internet?

1. Once a week or more often
2. Once a month
3. Once every 3 months
4. Once every 6 moths
5. Once a year
6. Less often
7. Don't know

**Question 3 (Q. 72a)**
After making an Internet purchase, have you ever had reason to complain?
(IF YES) To whom did you complain?

1. Yes, directly to the website online
2. Yes, to the organization owning/running the website (offline)
3. Yes, to a consumer organization
4. Yes, to a (*nationality)* government body
5. Yes, to another organization, association
6. Yes, but I did nothing about it
7. No, no complaint
8. Don't know

**Question 4 (Q. 72c)**
Were you satisfied or dissatisfied with the way your complaint was handled?

1. By the website online
2. By the organisation owning/running the website (offline)
3. By a consumer organization
4. By a *(nationality)* government body
5. By another organization, association

**Question 5 (Q. 79)**
Do you think you are going to shop on the Internet in the next three months?

1. Yes
2. No
3. Don't know

**Question 6 (Q. D.8.)**
Gender

1. Male
2. Female

**Question 7 (Q. D.11.)**
How old are you?

**Question 8 (Q. 1.)**
What is your nationality? Please tell me the country(ies) that applies(y).
(Multiple answers possible)

1. Belgium
2. Denmark
3. Germany
4. Greece
5. Spain
6. France
7. Ireland
8. Italy
9. Luxemburg
10. Netherlands
11. Portugal
12. United Kingdom (Great Britain, Northern Ireland)
13. Austria
14. Sweden
15. Finland

# 5 Discussion and Implications

## 5.1 Summary of the findings and theoretical implications

The main goal of this thesis is to provide insights into how online customers' needs structured in the customer purchase process affect website development and e-commerce performance. This thesis aims to contribute to professional practitioners' understanding and to the academic literature. In the introduction to this thesis (Chapter 1), we have identified the main research objectives addressed in the separate chapters (three studies). In this section, the main findings of the thesis are summarized. Also, the theoretical and managerial implications to the field of electronic commerce are discussed.

**Study 1: Stages of website advancement: Assessment based on goals to support the customer purchase process.**

In Chapter 2 (study 1), our focus was on understanding the stages of website development. We contribute to existing literature by formulating website goals based on the customer purchase process. In this way our findings can assist in developing customer-oriented e-commerce strategies. Next, we adopt an innovative modeling approach, namely a latent class extension of the generalized partial credit model (Muraki, 1992; Vermunt, 2001) that combines latent class analysis and item response theory. This methodology permits testing equally well when a single hierarchy can be found or when the data is better described by distinguishing multiple hierarchies. The results suggest two separate dimensions of website development, one for transactional and another for relational website functions, in contrast to some other studies (e.g. Wu and Lee, 2005) which discuss the Internet only as a communication channel. The website goal hierarchy for the transactional dimension is as follows: product

selection, ordering, delivery, after-sales, order progress and payment. The relational dimension is: image building, strengthening relationships, after-sales service and order progress. These hierarchies assume that websites that have realized simpler goals may or may not pursue more advanced goals, but all websites at the advanced level also pursue the more basic goals. A model for website advancement has not been empirically tested before. In addition, only one-dimensional advancement stages have been discussed to date. We also investigated which firm characteristics influence the level of website advancement, including the presence of a separate marketing department and the industry type.

The two hierarchies we derive based on website goals are in line with previous research using different approaches. Daniel et al. (2002) identified four sequential stages of e-commerce adoption, where firms at a specific stage undertake all activities of the previous stages and some in addition. The third stage adds receiving orders online, as it is our medium level of the transactional dimension. Firms at the most advanced stage add after-sales service and payment capabilities, which is also similar to our findings. Daniel et al. (2002) suggested that the companies in the third stage were about to develop transactional capabilities in addition to information provision. Lee and Grewal (2004) discussed adopting the Internet as a communication channel and as sales channel. Hence, they also perceive the communication channel as an initial step before adopting a sales channel. The channels are recognized as consecutive steps of development stages. Our study deviates from these and other studies by specifying two separate dimensions of website development. Our empirical findings indicate that website advancement should be treated as two related but different sequences of e-commerce adoption: transactional and relational aspects. Thus, depending on strategic decisions, many options for website development are possible. For example, website can demonstrate highly advanced relational functions and less sophistication in transactional functions, or websites can be at a low advancement level in both functions.

### Study 2: Transactional and informational functions of websites: Which is more important for success?

In Chapter 3 (study 2), we show empirical support for the chain of e-commerce effects, starting with website features, which refers to website content and is determined by companies, through the intermediate steps of informational and transactional website success, overall website success and market performance, ultimately to financial performance. This framework enables us to determine the relative importance of the informational and transactional functions of a website, to identify which website features impact website success, and to show that website features contribute to the financial performance of a company. Our results indicate that both the informational and the transactional functions contribute to the success of websites. This finding is in contrast to Lee and Grewal (2004), who studied Internet adoption as a communications channel and as a sales channel. Only in the first case did they find a positive effect on firm performance. Since their study involved data from the Internet boom period until 2000, it seems we can show that since then, Internet use by both suppliers and customers has matured significantly (Chu et al., 2007). In addition, we found that both informational and transactional features sets have a positive impact on their respective website functions success and that firms can improve website performance through providing relevant website features in the whole customer purchase process. This result differs from Saeed et al. (2003) who found no support for the relationship between website features in the acquisition (our transactional function) and ownership stages (our informational function) and performance. This divergence might be due to different approaches in classification of website features into stages of the purchase process. In Saeed et al. (2003) features could belong to one or more stages of the customer purchase stages, while in our study, each feature was specific for only one stage. Therefore, presence of website features specific for each stage is important for website and company success.

**Study 3: The effect of complaint behavior and service recovery satisfaction on intentions to repurchase on the Internet.**

In Chapter 4 (study 3) we compared how repurchase intention depends on customer complaint behavior and service recovery satisfaction. In general, our findings show that negative experiences and complaints do not lead automatically to disadoption of the Internet as a purchase channel. The e-business market does not necessarily cause complainants to stop being online buyers. What is more, we find remarkable differences between the studied consumer groups with respect to intentions to repurchase on the Internet. Consumers who have negative experiences, complained about them and were satisfied with the complaints handling, have higher repurchase intentions than consumers who did not have a reason to complain and consumers who did not complain about their negative experiences (silent complainers). Thus, we empirically demonstrate the service recovery paradox for the online purchase setting. The service recovery paradox has been shown in several publications for offline settings (De Matos et al., 2007) but not yet for an online setting.

Also, our results suggest that for repurchase intention on the Internet, complaining internally is better than complaining externally. Also, Goetzinger et al. (2006) stated that online sellers receive the greatest benefit when consumers choose to complain directly to the e-tailer because of their awareness of the problem and their ability to respond. Customers who decided to complain to an external organization and were satisfied with the response also demonstrated high purchase intention. However, if they were unsatisfied with the response to the complaint, the percentage of repurchase intention considerably drops. To conclude, our findings add important insights to the existing literature through an empirical comparison of different complaint behavior groups on their intentions to repurchase online. Our results underline the importance of service recovery and satisfying complaint handling for electronic commerce.

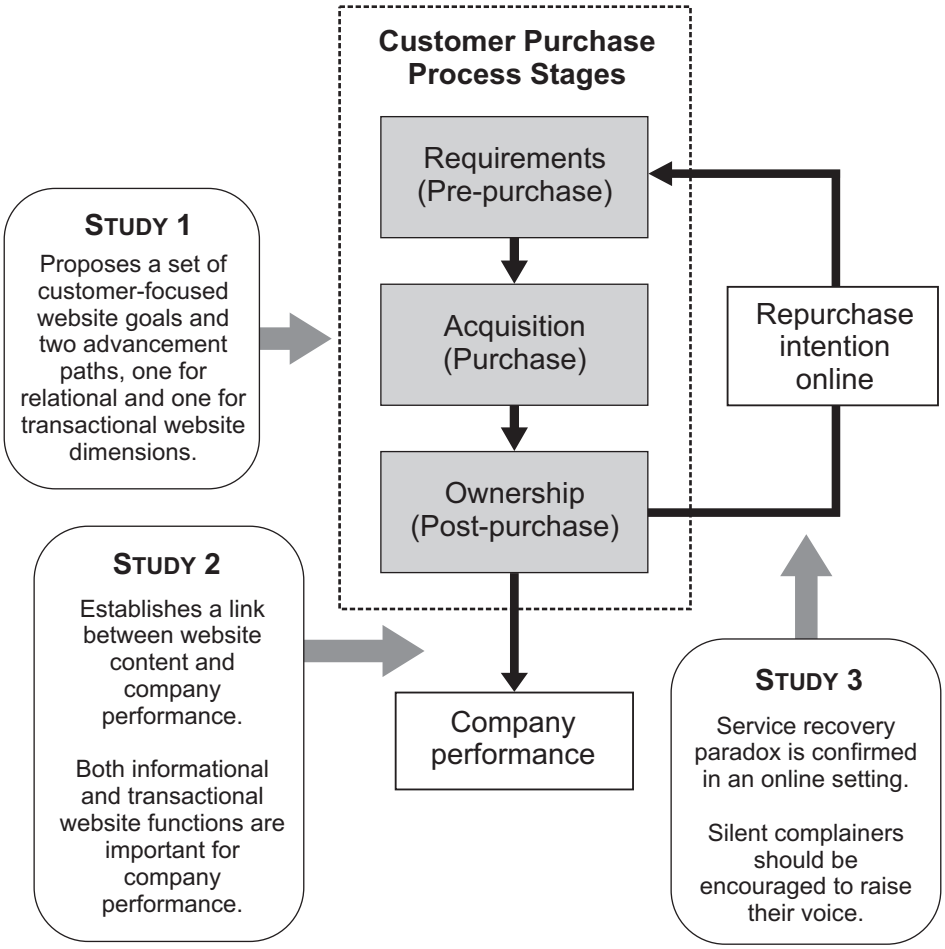



FIGURE 5.1. OUTLINE OF THE CONTRIBUTIONS OF THE THREE STUDIES

**Overall conclusions**

The three studies included in this dissertation indicate directions to follow on how to link the customer purchase process to e-commerce. Study 1 adds knowledge on how a website can develop and advance by pursuing customer-focused website goals. Study 2 shows the link between website content based on customer's needs and company success. It also shows that successful online

customer support in the informational and transactional stages relates positively to company performance. Study 3 focuses on customer support in the post-purchase stage, showing the importance of service recovery for future Internet purchases. Figure 5.1 outlines the main contributions of the three studies.

## 5.2 Managerial implications

The results reported in this thesis do hold several important practical implications for developing e-commerce strategies.

First, in Chapter 2 (study 1), by showing how website goals can be derived from the various stages of the customer purchase process we offer managers a tool to support the development of customer-oriented websites. For each of the stages managers can determine which features or functions could support customers better. Additionally, managers can use the model to review their current website: it shows them the major strengths and weaknesses of their website in terms of supporting customers in their decision process. Also, these results allow a firm to determine the current status of advancement of its website, which is crucial for the further design of an e-commerce strategy and suggest which goals could be pursued given the current stage of a firm's website. Thus, the results of this study may serve as a benchmark and as a tool for screening, evaluating, designing and improving the website.

In Chapter 3 (study 2), we show that firms can improve website performance through providing relevant website features in the entire customer purchase process. Managers can use the features sets proposed in study 2 as a starting point for website improvement. What is more, a chain of effects established in that study (starting with website features and ending with financial performance) is helpful for managers trying to justify e-commerce investments. An established link with financial performance, albeit through some intermediate steps, is essential in e-commerce accountability debates. Also, our findings on informational and transactional website functions imply that there is, in general, no reason to limit Internet activities to information,

communication or interaction-related tasks. Providing relevant support in the transaction stage also contributes to greater overall website success.

Chapter 4 (study 3) shows that managers may win back dissatisfied customers so that the Internet channel is not discarded for future shopping; though it requires accurate response to customer complaints. The most optimal for electronic commerce is that customers complain directly to the e-tailer (internally). Therefore, management should encourage customers to complain internally. With successful internal complain management, the e-tailer gets direct information from the consumer but also the consumer will probably repurchase online in the future. Regarding external complainants, it is crucial to ensure that they are satisfied with the response to the complaint. External complaints should therefore be carefully monitored and handled. Moreover, e-commerce management should encourage silent complainers to voice their complaints, as their repurchase intention is otherwise relatively low. Finally, management should understand that their customers' satisfaction with complaint handling is essential for the future of online businesses.

## 5.3 Future research

The findings and implications of this dissertation indicate the need to further investigate the link between customer needs and e-commerce strategies. This thesis has investigated issues from two fields, customer behavior and electronic commerce. By merging these fields we present new insights regarding customer-oriented e-commerce strategies. We hope that we have demonstrated how knowledge of the customer purchase process can be adapted to e-commerce strategies. Nonetheless, future directions for research can be based on the findings of this thesis.

In the first two studies (chapters 2 and 3), the focus was on how companies use websites to support customers in their purchase processes. We studied the supplier's perspective and only one channel, the Internet. Likely future extensions are to study the same issue from a customer perspective (Torkzadeh and Dhillon, 2002). Also, new insights could be gained by

including other channels as well (Bendoly et al., 2005; Dholakia et al., 2005). There is a variety of channels available to customers during the different stages of the decision-making process, such as bricks-and-mortar stores, catalogues and phone. Future research could study the stages of advancement within a mixed multichannel environment.

An interesting avenue for future research would be to investigate how performance is related to website advancement level, as proposed in study 1. Investigating this link would be beneficial for both researchers and practitioners. This would provide insights into whether firms are successful in implementing subsequent website advancement stages. Subsequent possible research could test the link between e-commerce strategy and performance separately for the business-to-business and business-to-consumer settings.

Study 3 on online consumer dissatisfaction, shows the importance of placing complaints internally with an e-tailer. Thus, the search for website improvements supporting customers in placing their complaints in a straightforward way should be continued. Actually, new technologies are continually emerging and customers are becoming increasingly sophisticated and demanding (e.g. McGaughey, 2003), so increasingly sophisticated features are expected to be invented and incorporated online to facilitate complaints handling.

Moreover, further research could investigate whether the findings regarding service recovery and repurchase intention for individual e-tailer differ from our conclusions at the e-channel level.

An additional valuable extension of the findings in study 3 would be to study different complaint behavior groups and their repurchase intentions in a multichannel setting. Teerling (2007) studied relationships between offline and online customer (cross-channel) behavior showing that behavior in one channel influences behavior in another channel and vice-versa. In view of that, customer dissatisfaction with online purchase may have cross-channel effects on purchases offline. Furthermore, dissatisfaction with purchase in bricks-and-mortar shop might impact future purchases from an online counterpart.

Recently Verhoef et al. (2007) distinguished the research-shopper phenomenon, which is the tendency of customers to use one channel for search and another for purchase. The most popular form of research shopping was using the Internet as a search channel and a store as a purchase channel, but there was also store-Internet research shopping. In this thesis we studied the impact of customer dissatisfaction in the post-purchase stage on future online purchase intention. Indeed, an interesting research problem is how dissatisfaction at the pre-purchase stage of the customer purchase process influences purchases online and/or offline.

Finally, in this thesis we have focused on the extent to which a website supports customers in their purchase process. Although this is crucial for online success, it is not the only factor managers have to consider when developing or maintaining websites. Other important factors include the match with the firm's marketing and IT strategy, the competitive situation and opportunities and/or limitations associated with the current website architecture. It would be interesting to extend the findings of this thesis by including a more diverse set of factors simultaneously. The ultimate goal of such research would be to develop a website scorecard that provides a comprehensive and complete overview of the strengths of the current website and the avenues open for further improvement.

# Summary

Electronic commerce is fundamentally changing the way consumers search and buy goods and services. E-commerce is informing, promoting, buying and/or selling of products or services over electronic media such as the Internet. E-commerce has become a critical factor for competitiveness and productivity growth. Companies in all sectors are increasingly using the Internet to do business. These new circumstances have forced managers to seek guidelines on how to act effectively in the electronic marketplace. However, not all website investments lead to increased performance and the search for ways to make the web profitable is therefore still on. In fact, to sustain the profitability of any business, keeping the customer repurchasing products or services is essential. To keep e-clientele, e-commerce has to be customer focused. In order to develop customer-oriented e-commerce strategies, it is essential for managers to understand what the customers' needs are in the online environment.

Using knowledge of customers needs in their purchase process may provide essential insights for e-commerce strategy. The main goal of this thesis is to provide insights into *how online customers' needs structured in the customer purchase process affect website development and e-commerce performance.* Such strategies should be based on customer needs in the online setting. Hence, customer behavior theory, in particular the customer purchase process, is used in this thesis to attain the stated goal. The thesis consists of three studies. The conceptual models of studies 1 and 2 are tested in an empirical setting with data from 380 firms with commercial websites. The sample is obtained from a wide range of industries in the Netherlands. The conceptual model of study 3 is empirically tested using a cross-European (15

countries) survey, which allows for generalization and international comparison of the findings.

In study 1 **'Stages of website advancement: assessment based on goals to support the customer purchase process'**, the objective is *to determine the stages of website advancement based on the hierarchy of website goals*. A goal hierarchy implies that different firms pursue website goals in the same fixed order. Moreover, we explore whether the degree of website advancement differs depending on various firm and industry characteristics. We examine website advancement stages based upon the support the website provides to customers.

We contribute to existing literature by formulating website goals based on the customer purchase process. Next, we adopt an innovative modeling approach, namely a latent class extension of the generalized partial credit model (Muraki, 1992; Vermunt, 2001) that combines latent class analysis and item response theory. This methodology permits us to test whether a single hierarchy exists or if the data is better described by distinguishing multiple hierarchies. The results suggest two separate dimensions of website development, one for transactional and another for relational website functions. The website goal hierarchy for the transactional dimension is the following: product selection, ordering, delivery, after-sales service, order progress and payment. For the relational dimension the hierarchy consists of the following goals: image building, strengthening relationships, after-sales service, and order progress. These hierarchies assume that websites that have realized simpler goals may or may not pursue more advanced goals, but that all websites at the advanced level also pursue the more basic goals. The firm characteristics that influence the level of website advancement include having a separate marketing department and the industry type.

The two hierarchies we derive based on website goals are in line with previous research using different approaches. Daniel et al. (2002) identified four sequential stages of e-commerce adoption, where firms at a specific stage undertake all the activities of the previous stages and some in addition. Lee and Grewal (2004) discussed adopting the Internet as a communication channel and

as a sales channel. Similarly to Daniel et al. (2002) they perceive the communication channel as an initial step before adopting a sales channel. Our study deviates from these and other studies by specifying two separate dimensions of website development. Our empirical findings indicate that website advancement should be treated as two related but different sequences of e-commerce adoption: transactional and relational aspects. Identification of these hierarchies has important implications for website development. It may guide firms in their continuous search for improvement of their website, and it may also enhance our understanding of their current Internet use as a phase in an extended process. By showing how website goals can be derived from the various stages of the customer purchase process we offer managers a tool to support the development of customer-oriented websites. Managers can determine which features or functions could support customers better at each stage. Also, managers can use the model to review their current website: it reveals the major strengths and weaknesses of their website in terms of supporting customers in their decision process. Above all, these results allow a firm to determine its current status of advancement and suggest which goals could be pursued given at that website stage. Thus, the results of this study can serve as a benchmark and as a tool for screening, evaluating, designing, and improving websites.

Study 2 '**Transactional and informational functions of websites: What is more important for success?**', provides new theoretical and empirical insights into *the relative importance of the informational and transactional functions of company websites. This is achieved by the chain of effects from website features, through informational and transactional success towards overall website and company performance*. By establishing this chain of effects three important contributions are made. First, we are able to determine the relative importance of the informational and transactional functions of a website. Second, by linking features to success measures, we identify which website features impact website success. Third, by establishing the chain of effects we link website features (the content of the site) through a number of intermediate performance measures ultimately to the financial performance of a

company. By empirically validating these links we provide an important argument for the e-commerce accountability debate. For practitioners, a better understanding of whether and how the transactional and relational functions connect with success would allow them to use resources more effectively and improve the return on their Internet-related investments.

Our results indicate that both the informational and the transactional functions contribute to the success of websites. This finding is in contrast to Lee and Grewal (2004), who studied Internet adoption as a communications channel and as a sales channel. Only in the first case did they find a positive effect on firm performance. Although both functions contribute to website success, the informational function has a considerably greater effect than the transactional function. Moreover, we found that both informational and transactional features sets have a positive impact on their respective website functions' success. This result partly differs from Saeed et al. (2003) who found no support for the relationship between website features in the acquisition (our transactional function) and ownership stages (our informational function), and performance. This divergence might be due to different approaches in classifying website features into stages of purchase process.

Managers can use the features sets proposed in study 2, as a starting point for website improvement. The chain of effects (starting with website features and ending with financial performance) is helpful for managers since an established link with financial performance is essential in e-commerce accountability debates. Furthermore, our findings imply that there is, in general, no reason to limit Internet activities to information, communication or interaction-related tasks. Providing relevant support in the transaction stage also contributes to greater overall website success.

Next, in study 3 '**The Effect of Complaint Behavior and Service Recovery Satisfaction on Intentions to Repurchase on the Internet',** we give insights into online customers' needs in the post-purchase stage of the purchase process. The goal is *to investigate the impact of consumers' complaint behavior and service recovery satisfaction on the intention to repurchase on the Internet channel.* We study whether consumers complaints followed by satisfaction with

complaint handling impact consumer intentions to buy on the Internet. The literature on traditional (offline) commerce (e.g. Dunning et al., 2004) indicates that even a dissatisfied customer is willing to repurchase if the complaints were well handled. Hence, proper service recovery actions can win the consumer back, while poor recovery efforts may move consumers to another retailer (Schneider and Bowen, 1999). However, complaint behavior and this so-called service recovery paradox (De Matos et al., 2007) has hardly been addressed in the e-commerce literature. Customers dissatisfied with an online purchase may not only switch to another online retailer, but they may discard the Internet channel for future shopping.

In general, our findings show that negative experiences and complaints do not automatically lead to disadoption of the Internet as a purchase channel. Consumers with negative experiences who complained about them and were satisfied with the complaints handling, have higher repurchase intentions than consumers who did not have a reason to complain and consumers who did not complain about their negative experiences (silent complainers). Thus, we empirically demonstrate the service recovery paradox for the online purchase setting.

Our results also reveal that for repurchase intention on the Internet, complaining internally is better than complaining externally, see Goetzinger et al. (2006). Customers who decided to complain to an external organization and were satisfied with the response also demonstrated high purchase intention. However, if they were unsatisfied with the response to the complaint, the percentage of repurchase intention drops considerably. To conclude, our findings add important insights to the existing literature through an empirical comparison of different complaint behavior groups on their intentions to repurchase online. Our results underline the importance of service recovery and satisfying complaint handling for electronic commerce.

Managers may win back dissatisfied customers by providing accurate responses. It is most optimal when customers complain directly to the e-tailer. Therefore, management should encourage customers to complain internally. With successful internal complaint management, the e-tailer not only gets direct

feedback from the consumer but also increases the likelihood of repurchase. Regarding external complainers, it is crucial to ensure that they are satisfied with the response to the complaint. External complaints should therefore be carefully monitored and handled. What is more, companies should encourage silent complainers to voice their complaints, as their repurchase intention is otherwise relatively low.

# Samenvatting

Elektronische handel verandert fundamenteel de manier waarop consumenten goederen en diensten kopen. E-commerce is het kopen en verkopen van producten of diensten via elektronische systemen als het Internet. Het is een kritische factor voor concurrentievermogen en productiviteitsgroei geworden. Bedrijven in alle sectoren gebruiken Internet steeds meer voor het doen van zaken. Deze nieuwe omstandigheden hebben managers gedwongen om naar richtlijnen te zoeken hoe zo effectief mogelijk te handelen in deze elektronische markt. Niet alle website investeringen hebben tot betere prestaties geleid. Vandaar dat er nog steeds gezocht wordt naar manieren om het web meer winstgevend te maken. Om de winstgevendheid van elk bedrijf te behouden, is het essentieel klanten te laten terugkomen. Om dat te bereiken moet e-commerce klant georiënteerd zijn. Om klantgerichte elektronische handelstrategieën te ontwikkelen, is het essentieel voor managers om te begrijpen wat de behoeften van de klanten zijn in de online omgeving.

Het gebruik maken van kennis over behoeften van de klant in hun aankoopproces kunnen essentiële inzichten verstrekken voor een elektronische handelstrategie. Het belangrijkste doel van deze thesis is om inzicht te geven in *hoe online klantbehoeften leidend kunnen zijn in het ontwikkelen van websites en e-commerce strategieën.* Dergelijke strategieën zouden moeten worden gebaseerd op klantenbehoeften in de online omgeving. Daarom wordt theorie over klantengedrag, in het bijzonder het proces van de klantenaankoop, gebruikt om het gestelde doel te behalen. De thesis bestaat uit drie studies. De conceptuele modellen van studie 1 en 2 zijn empirisch getest doormiddel van data van 380 bedrijven met commerciële websites. De steekproef is verkregen uit een grote variëteit van industrieën in Nederland. Het conceptuele model van

studie 3 is empirisch getest gebaseerd op een Europees onderzoek in 15 landen, welke ervoor zorgt dat de bevindingen kunnen worden gegeneraliseerd en internationaal kunnen worden vergeleken.

In studie 1 **'Stadia van website ontwikkeling: beoordeling gebaseerd op doelen om de klant in het aankoopproces te ondersteunen'**, de doelstelling is *om te bepalen welke stadia van website ontwikkeling zijn gebaseerd op de hiërarchie van website doelen.* Een doelhiërarchie impliceert dat verschillende bedrijven website doelstellingen in dezelfde vaste volgorde natreven. Bovendien onderzoeken wij of de graad van website ontwikkeling verschilt op basis van diverse bedrijfs- en industriekarakteristieken. Wij onderzoeken website ontwikkeling stadia gebaseerd op de steun die de website verleent aan de klanten.

Wij dragen bij tot bestaande literatuur door het formuleren van website doelstellingen gebaseerd op het klanten aankoopproces. Daarnaast passen wij een innovatieve modelleringaanpak toe, namelijk de latente klasse uitbreiding van het generalized partial credit model (Muraki, 1992; Vermunt, 2001) dat latente klasse analyse en item response theorie combineert. Deze methodologie maakt het mogelijk om te testen of een enkele hiërarchie bestaat of dat de data beter wordt beschreven door veelvoudige onderscheidende hiërarchieën. De resultaten stellen twee afzonderlijke dimensies van website ontwikkeling voor, één voor transactionele en de ander voor relationele website functies. De website doelhiërarchie voor de transactionele dimensie ziet er als volgt uit: productselectie, bestelling, aflevering, after-sales service, bestellingstatus en betaling. Voor de relationele dimensie bestaat de hiërarchie uit de volgende doelen: imago vorming, versterken van de relaties, after-sales service en bestellingstatus. Deze hiërarchieën veronderstellen dat websites die eenvoudigere doelstellingen hebben gerealiseerd meer geavanceerdere doelstelling soms wel nastreven, maar dat alle websites op het geavanceerde niveau ook de meer basisdoelstellingen nastreven. Bedrijfskarakteristieken die het niveau van website ontwikkeling beïnvloeden omvatten het hebben van een aparte marketing afdeling en het type industrie.

De twee hiërarchieën die wij hebben afgeleid gebaseerd op website doelen stemmen overeen met voorafgaand onderzoek waarin verschillende aanpakken zijn gebruikt. Daniel et al. (2002) identificeerde vier opeenvolgende stadia van e-commerce goedkeuring, waarbij bedrijven in een specifiek stadium alle activiteiten en sommige aanvullende ondernemen. Lee en Grewal (2004) bespraken het gebruik van Internet als zowel een communicatie- en verkoopkanaal. Evenals Daniel et al. (2002) veronderstellen zij het communicatiekanaal als de eerste stap alvorens over te gaan tot het verkoopkanaal. Onze studie wijkt van deze en andere studies af door het specificeren van twee afzonderlijke dimensies van website ontwikkeling. Onze empirische bevindingen wijzen erop dat website ontwikkeling als twee verwante maar verschillende opeenvolgingen van e-commerce aanpassing zouden moeten worden behandeld: transactionele en relationele aspecten. De identificatie van deze hiërarchieën heeft belangrijke implicaties voor website ontwikkeling. Het kan bedrijven begeleiden in hun continue zoektocht naar verbetering van hun website, en het kan ons begrip van hun huidige gebruik van Internet als een fase in een uitgebreid proces verbeteren. Door te tonen hoe website doelstellingen kunnen worden afgeleid uit de diverse stadia van het klanten aankoopproces, bieden wij managers een hulpmiddel aan om de ontwikkeling van klantgerichte websites te ondersteunen. Voor elk van de stadia kunnen managers bepalen welke eigenschappen of functies de klanten beter kunnen ondersteunen. Bovendien kunnen managers het model gebruiken om hun huidige website te herzien: het toont hun de belangrijkste sterke en zwakke punten van hun website in termen van het steunen van klanten in hun besluitproces. Tevens staan deze resultaten een bedrijf toe om te bepalen wat de huidige status van ontwikkeling is en voor te stellen welke doelstellingen gezien het huidige stadium van de website zouden kunnen worden nagestreefd. Dus de resultaten van deze studie kunnen als benchmark en als een hulpmiddel voor het screenen, evalueren, ontwerpen en verbeteren van een website dienen.

Studie 2 **'Transactionele en informationele functies van websites: wat is belangrijker voor succes?'**, verstrekt nieuwe theoretische en empirische inzichten in *het relatieve belang van de informationele en transactionele*

*functies van websites. Dit wordt gedaan door het vaststellen van een reeks van effecten van website eigenschappen, via informationeel en transactioneel succes, op uiteindelijk de gehele website en bedrijfsprestatie.* Door het vaststellen van deze reeks van effecten worden drie belangrijke bijdragen geleverd. Ten eerste, kunnen wij het relatieve belang van de informationele en transactionele functies van een website bepalen. Ten tweede, door eigenschappen met succesmaatregelen te verbinden, identificeren wij welke website eigenschappen website succes beïnvloeden. Ten derde, door het vaststellen van de reeks van effecten verbinden wij website eigenschappen (de inhoud van de site) uiteindelijk door een aantal tussen prestatiemaatstaven met de financiële prestaties van een bedrijf. Door deze verbindingen empirisch te valideren verstrekken wij een belangrijk argument voor het e-commerce accountability debat. Voor praktijkmensen zou een beter inzicht in hoe de transactionele en relationele functies met succes kunnen worden verbonden hun in staat stellen om middelen effectiever te gebruiken en het rendement op hun Internet gerelateerde investeringen te verbeteren.

Onze resultaten wijzen erop dat zowel de informationele als de transactionele functies tot het succes van websites bijdragen. Deze bevinding is in contrast met Lee en Grewal (2004), die de adoptie van Internet als communicatie- en verkoopkanaal bestudeerden. Slechts in het eerste geval vonden zij een positief effect of bedrijfsprestaties. Hoewel beide functies bijdragen tot website succes heeft de informationele functie een aanzienlijk groter effect dan de transactionele functie. Bovendien vonden wij dat zowel de informationele en de transactionele eigenschappen een positief effect hebben op het succes van beide website functies. Dit resultaat verschilt gedeeltelijk van Saeed et al. (2003) wie geen steun voor het verband tussen website eigenschappen in de aankoop (onze transactionele functie) en eigendomsstadia (onze informationele functie) en prestatie vond. Deze divergentie zou aan verschillende benaderingen toe te schrijven kunnen zijn in het classificeren van website eigenschappen in stadia van het aankoopproces.

Managers kunnen de eigenschappenreeksen die in studie 2 worden voorgesteld als uitgangspunt nemen voor website verbetering. De reeks van

effecten (om te beginnen met website eigenschappen en eindigend met financiële prestaties) zijn nuttig voor managers aangezien een gevestigde verbinding met financiële prestaties essentieel is in e-commerce accountability debatten. Ook impliceren onze bevindingen dat er in het algemeen geen reden is om Internet activiteiten te beperken tot informatie, communicatie of interactie verwante taken. Het verlenen van relevante steun in het transactiestadium draagt tevens bij tot groter algemeen website succes.

Daarna in studie 3 **''De invloed van een klacht indienen en de tevredenheid met het verhelpen hiervan op online herhalingsaankoopintenties'**, geven wij inzicht in de behoeften van online klanten in het post-aankoopstadium van het aankoopproces. Het doel is *om de invloed te onderzoeken van het klachtgedrag van consumenten en de tevredenheid met het verhelpen hiervan op de intentie om nogmaals via het Internet te kopen.* Wij bestuderen of klagen door consumenten en daarna de tevredenheid met de klachtenafhandeling de intentie om van het Internet te kopen beïnvloedt. Literatuur over traditionele (offline) handel (b.v. Dunning et al. 2004) wijst erop dat zelfs een ontevreden klant bereid is om weer te kopen als de klachten goed werken behandeld. Vandaar dat de juiste terugwinacties de klant kunnen terug winnen, terwijl slechte terugwininspanningen consumenten tot een andere detailhandelaar kunnen brengen (Schneider en Bowen, 1999). Hoewel klachtengedrag en deze zogenaamde service recovery paradox (De Matos et al., 2007) nauwelijks is besproken in de e-commerce literatuur. Ontevreden klanten met een online aankoop kunnen niet alleen op een andere online retailer overschakelen, maar zij kunnen voor toekomstig winkelen het Internet kanaal tevens verlaten.

In het algemeen tonen onze bevindingen aan dat negatieve ervaringen en klachten niet automatisch leiden tot het verlaten van Internet als aankoopkanaal. Consumenten met negatieve ervaringen, die hierover geklaagd hebben en tevreden waren met de klachtenafhandeling, hebben hogere terugkomintenties dan consumenten die geen reden hadden tot klagen en consumenten die niet klaagden over hun negatieve ervaringen (stille klagers).

Op deze manier demonstreren wij empirisch de service recovery paradox voor het online aankoopproces.

Bovendien laten onze resultaten zien dat voor herhalingsaankoop intentie op het Internet het beter is om intern dan extern te klagen, zie Goetzinger et al. (2006). Klanten die besloten aan een externe organisatie te klagen en tevredengesteld waren met de reactie lieten ook een hogere aankoopintentie zien. Echter als zij ontevreden waren met de reactie op de klacht, daalde het herhalingsaankoop percentage aanzienlijk. Concluderend voegen onze bevindingen belangrijke inzichten toe aan de bestaande literatuur door een empirische vergelijking van verschillende klachtengedrag groepen op hun intentie tot herhalingsaankoop online. Onze resultaten onderstrepen het belang van terugwinservice en tevredenstellende klachtenafhandeling voor e-commerce.

Managers kunnen ontevreden klanten terugwinnen door het verstrekken van nauwkeurige reacties. Het meest optimaal is dat klanten rechtstreeks aan de e-tailer klagen. Daarom zou het management klanten moeten aanmoedigen om intern te klagen. Met succesvol intern klachtenbeheer krijgt de e-tailer niet alleen directe terugkoppeling van de consument maar verhoogt ook de waarschijnlijkheid van herhalingsaankoop. Voor externe klagers, is het cruciaal om ervoor te zorgen dat zij tevreden zijn met de reactie op de klacht. Externe klachten zouden daarom zorgvuldig moeten worden gecontroleerd en behandeld. Tot slot zullen bedrijven stille klagers moeten aanmoedigen om hun klachten te uiten, aangezien hun herhalingsaankoop intentie anders vrij laag is.

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